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John M. Gaus

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THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

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VOLUME XXI
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The Education of Planners: A Commentary on Some Current Projects

By JOHN M. GAUS*

THE grand debate over what is a planner, and how, if at all, it is possible to help him educate himself may usefully be interrupted for a period of observation of an increasing number of attempts at revising or constructing afresh university programs for the education of planners. We present here a sampling only (with the hope that others may also be reported in another number of the *Journal*), but the sampling includes some of the oldest as well as some newly projected programs, and the areal spread is from coast to coast. Local circumstances, institutional and personal, account for much of the present activity in educational revision and invention; but development of our problems, changes in our institutions and environment, and the response to the depression and the war are probably the basic causes. The same factors have been at work throughout the world, and so foreign experience is a further stimulant.

The programs that are recorded briefly below, center for the most part in public policy as it relates to physical development, rather than, for example, to fiscal policy or social insurance—where also planning has to be done as a normal part of the governmental process.

The range and variety of public activities related to our physical development, particularly the expression in the last fifteen years of new applications of older policies as well as innovations, is one explanation of this. Consider the implications, for vast areas and the towns dependent on them, of the Agricultural Adjustment Administration, the Soil Conservation Service, the Forest Service, the Tennessee Valley Authority, Boulder Dam, the Columbia Basin projects, the Central Valley project; and equally so, for even larger populations in our cities, of the Federal Housing Administration, the Federal Public Housing Authority, the Federal Emergency Relief Administration and the Public Works Administration. These alone call

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for a general staff personnel at all levels of government with a preparation for which we have previously made no adequate provision. War policies have added to the complexities of our regional problems; but of at least equal importance are the more deeply rooted changes in population, as to both age and spatial distribution as between youth and old-age, country and city, core-city and suburb, region and region.

But in resuming our governmental coming-of-age, interrupted by the first world war and its immediate effects, we have created a far more sensitive and interdependent series of public services. This, too, is reflected in the projects that are presented. The personnel of a general staff, in whatever unit it may be, such as a national budget office, a city planning agency or the office of a governor or a regional forester, must deal today with a wider range of factors—mostly perplexing variables; and to label some "physical" and others "social" may be a brief convenience for a local filing cabinet, but it should be done with the famous smile of Owen Wister's *The Virginian*. There is a reaction against the more uncritical criticism of the early city planners as being too concerned with architecture, engineering, and "The City Beautiful," as the social scientist discovers how tangible the end result of his own contribution must be, and as he discovers, too, that these pioneers had at least some conception of the community as an organism, and more than a collection of specimens of economic man. That fundamental point has yet to be won for the metropolitan area, however much even the developer is now lisping such terms as "neighborhood unit" and "urban redevelopment." The natural and the social scientists have so much to learn from one another, and from all creative arts, and they have so much new to learn together, that they can no longer afford the prewar luxury of calls in which no self-respecting cats would indulge.

Without exception the projects record advance in the effort to draw widely upon all the resources of their respective universities. They show an attitude well in advance of the general university faculties in this, and I suspect will at this point run into difficulties. While there is some talk and some writing about "integrated curricula," in general our colleges and universities are federations of departments. The prizes go for achievement within subject-matter boundaries, and the needs of the community and of the students to prepare for usefulness in it are too easily reinterpreted into departmental objectives. That is one reason why we mush watch the fate of these projects during the next few years, whether it be the development of an older course as at Harvard, or the arresting proposal at Syracuse for a first graduate year in which those coming from the social studies get an intensive year in physical design problems and the products of physical science and architecture get an intensive year in the social studies. As one guilty of participation in university curriculum brawls, I interject here my belief that from the materials which will be developed in these new programs there are the makings of a really fresh and creative undergraduate liberal education program.

The execution of these programs calls for very able, imaginative and sympathetic teaching, adapted to the particular skills, background and needs of each student. Merely to send him to classes in different departments or colleges scattered about the campus will not achieve the objective: some common core of subject matter, some basic assumptions, will

be required of the teaching group. This will require much studying of new (to both) materials by the teachers with the students, as in the days of the orientation courses of twenty years ago. The devices whereby this new effort at orientation and integration is to be attempted should be recorded by the participants and shared and evaluated. Collaboration of all the students and teachers on the analysis of the resources and problems of an area, and the formulation of proposals for it (as employed, for example, at M.I.T. and Harvard, and characteristic, I judge, of the regional studies at the University of North Carolina, or of those envisaged at Syracuse and McGill) seems to me an ideal teaching procedure and one may applaud the spread of the internship principle. Is a combination of required courses, common seminar and individual tutorial, the best scheme? Will a new unit within the university have to be established if the particular courses and teachers under the jurisdiction of departments rooted in the existing traditional organization prove inadequate? These apparently minor practical points have far-reaching implications. There is no discussion of these questions in the reports, but two or three years from now I suspect we will be hungry for guidance about them.

In short, these particular programs reflect a widening of content, and a challenging of existing university structure and procedure in order better to prepare young men and women to participate in the wiser formulation of our public policies. They reflect—notably in the aims at the University of North Carolina, Wisconsin and California (as befits state universities) and at the Massachusetts Institute of Technology—an areal concept wider than the urban and metropolitan, and inclusive of town and country. They challenge the analyst of social institutions to put aside his grumblings about emphasis on physical design and turn to the effort at creating social designs adequate to the new metropolitan and rural environment. (Perhaps both "physical" and "social" designers may learn, as fellow students in ecology, a concept of the design given in nature for a particular area—in soil, climate, and other factors man may use, or abuse). As yet, none of these projects touch upon the difficult and disappointing question of popular appreciation and comprehension of life in a community, of its organic quality, if it is to be more than only endurable. Dean Hudnut's papers on the politics of city planning and the art of housing, and the studies of opinion analysis such as Princeton has made, need to be taken to heart and mind. But I believe these programs should help to give us more of the kind of public officials we need, and they may also show us the way to a more invigorating and creative liberal education.

At The University of California, Berkeley

By L. DEMING TILTON*

CALIFORNIA has a notable record in planning. Planning agencies exist in about 50 of the 58 counties and in over 120 municipalities. More than 1,200 citizens serve on the commissions, and a body of technicians numbering close to 200 carry on the staff activities.

* Director of Planning, San Francisco and Lecturer in Planning, University of California.

It is evident that a considerable effort goes into this work in California, but few realize that it is not adequately reflected in the planning courses offered by the universities. The most significant weakness is in the training of technicians. There is a constant and increasing demand for qualified professional workers, especially in the counties and cities. The present leaders have either been trained in the east or have entered the field through other disciplines. No institution offers a formal curriculum leading to a degree in city or regional planning.

The University of California at Berkeley, however, has been moving toward a wider recognition of its responsibilities. The importance and value of community planning has been emphasized in numerous courses in architecture, political science, social welfare, and landscape design. For many years Professor Howard Moise of Architecture has covered problems of community design in his courses on housing. Professor Leland Vaughan of Landscape Design has constantly broadened the site planning problems given landscape students. Professor Samuel C. May, of Public Administration, in both his upper division courses and seminar on federal administration, stresses the increasingly important role of governmental planning.

The first notable step toward establishment of a planning curriculum was taken in 1940, when Political Science authorized a seminar in governmental planning under the author's direction. This course was established largely through the efforts of Professor May, who served for several years as chairman of the State Planning Board. Prior to the war the seminar regularly attracted about twenty graduate students and from five to ten auditors. The course provides a broad view of the objectives, methods, and achievements of governmental planning. Reading, research, and interchange of ideas enable the advanced student to understand the basic concepts in national, state, and local planning. Thr major effort is to show the interrelationship of social, economic and physical plans, and to clarify the technical and administrative problems encountered in the planning process.

The value of such courses as has been noted appears ultimately in good citizenship, but neither the seminar in government nor courses dealing tangentially with the subject of planning meet the need for trained technicians. President Sproul has therefore appointed a Berkeley committee, under the leadership of Dr. Baldwin M. Woods, Director of University Extension, to report upon plans for more extensive and purposeful instruction in this field. The Committee has recommended a series of progressive changes in established courses and new offerings designed to meet prospective needs. In the scheme contemplated the general phases of governmental planning would be covered primarily in Public Administration, and courses dealing with the physical aspects of community and regional development would center in the schools of design. Coordination of what are now separate departments may well result in a "School of Community Design," embracing a curriculum in each of four important correlated fields: city and regional planning, architecture, public engineering, and landscape design. The aim of such a school would be to enlist interest in all aspects of community life, to encourage and practice collaborative effort, and to seek higher standards and better coordination in community design.

Shortly before the war Professor Warren C. Perry, Dean of the School of

Architecture, moved toward the goals outlined by securing authority to establish an elementary course in city and regional planning. This became a lecture series offering one unit credit for each of two semesters. It is designed to acquaint upper division students in architecture, landscape architecture, and engineering with the principles and techniques of local planning. The emphasis is upon physical planning and reference is made to the problems, experiences, and plans of cities and counties throughout California.

The limitations of a one-unit lecture course are obvious. Students having been introduced to the complexities and challenge of public planning feel the need for more advanced instruction. In 1943 the School of Architecture scheduled another course, covering two semesters and offering two units each, entitled Principles of Community Design. The war has prevented full development of this course, but as originally conceived it is to be a combination of lectures, prescribed reading and research, and simple design problems. The structural needs of the community are considered and evaluated in the light of present-day social concepts and economic institutions. Designs for new communities and for the reconstruction and improvement of the older cities are studied. Efforts are made to relate class-room work as directly as possible to the experiences of the student in his home community, to his work in other courses, and to his prospective field of service after graduation.

The return of veterans and renewal of interest in peacetime problems will undoubtedly create a demand for an enlarged and integrated curriculum in city and regional planning. The groundwork for such instruction has been laid. Lately a proposal has been made to establish a School of Public Administration and general plans for such a school are being studied. Governmental planning will undoubtedly have a large place in its curriculum.

These are merely promising trends, evidence of an awakening on the part of an institution that has become great through pioneering research in the physical sciences. The social sciences now call for equal or greater consideration. The problems of security, welfare, and environmental improvement have become all-important. The plans that helped us win on the sea and fields of battle are being set aside; but equally adequate peacetime plans must take their places. Well-trained men obviously are needed for such work. California must and will do its part to provide them.

At Harvard University

By G. HOLMES PERKINS*

AT HARVARD programs for the education of planners have been undergoing a steady evolution since 1909 when planning instruction was first offered. The fact that the first courses were offered under the Faculty of Architecture reflected the origins of city planning in this country. The broadening of the curricula, the establishment of the Charles Dyer Norton Chair of Regional Planning and the research grant from the General Education Board in 1929 reflected a widening public appreciation of the need for men who

* Professor of Regional Planning, Graduate School of Design.

could take up the arduous and complex tasks of guiding city and regional development.

At the same time the expanding sphere of government activities brought increased recognition that any program of training for the public service requires the utilization of the many resources of a university which are normally located in separate departments. This is particularly true of the education of planners. In Professor Gaus' report, *The Education of Planners*, and his seminars offered to the students in planning and in public administration, he showed the way to still more effective interdepartmental cooperation. To develop this cooperation further, there was created, during the past academic year, a council of the Department of Regional Planning which included in its membership[1] professors from the fields of public administration, economics, architecture, and city planning. The Council is prepared to assist the students in each of the special fields as they relate to planning, to develop programs for the education of planners, to encourage the establishment of courses in the several fields which have an urgent usefulness to planners, to encourage planning research and to assist in the collaborative solution of planning problems. Since the organization of the Council several new courses have been established which are intended to be particularly helpful to planners; two are in urban sociology, one a seminar on governmental and administrative aspects of planning offered at the Littauer Center, and one a seminar on regions, offered by the Department of Geography. Special seminars, conducted by resident professors and consultants from the public service, are offered jointly by Littauer and the Department of Regional Planning, and at times also in cooperation with the School of Architecture and Planning of M. I. T.

The experience and knowledge which each student obtains in the various disciplines are brought to bear on specific problems which form the backbone of the training. These case studies are undertaken collaboratively by students whose college or professional training has been in the social sciences or in geography, engineering, or in architecture. One example of such collaboration was the housing study made this past term. A housing market analysis was prepared into which went the contributions of economists, sociologists, public administrators, and architects—both students and professors. From this analysis was developed a program from which, in turn, grew designs for the redevelopment of a large city area complete to methods of public and private financing, architectural plans, and traffic proposals. Through such constant working together, it is hoped that students (and professors as well), trained in the various sciences and arts, may develop a sympathetic understanding of the views and contributions of others and an ability to work together harmoniously in preparation of worthwhile programs.

The instruction given is for the most part on the graduate level, four graduate degrees being offered: the Bachelor of City Planning, Master in City Planning,

[1] G. Holmes Perkins, Charles Dyer Norton Professor of Regional Planning and Chairman of the Department of Regional Planning; Walter Gropius, Professor of Architecture and Chairman of the Department of Architecture; Martin Wagner, Associate Professor of Regional Planning; Morris Bryan Lambie, Professor of Government, Graduate School of Public Administration; Joseph Hudnut, Professor of Architecture and Dean of the Faculty of Design; Derwent Stainthorpe Whittlesey, Professor of Geography; Carl Joachim Friedrich, Professor of Public Administration; Seymour Edwin Harris, Associate Professor of Economics, Graduate School of Public Administration; Talcott Parsons, Professor of Sociology and Chairman of the Department of Sociology; and Charles Cortez Abbott, Associate Professor of Business Economics, Graduate School of Business Administration.

Master in Regional Planning, and Ph. D. in Regional Planning. In addition there is a field of concentration within the College which permits the undergraduate to anticipate approximately one year of graduate work. The courses offered to undergraduates are largely non-professional in nature and are intended primarily to stimulate his interest as a citizen in the civic life of his community and region.

Planning research, made possible by funds from the General Education Board, has resulted in the publication of the Harvard City Planning Studies and is, at present, encouraged by the granting of fellowships to candidates for advanced degrees. These students receive the guidance of the members of the Council and have available to them the unrivaled resources of the planning library of the Department, the special libraries of the Schools of Public Administration and Business as well as the Harvard College Library.

The student is given the utmost liberty in the development of a program suited to his own particular needs. There is no fixed curriculum. Instead, he is offered the opportunity for development of an awareness of the problems of cities and regions and of the economic, social, and political forces which have brought and are bringing such rapid transformations in our physical environment. For, as Dean Hudnut has said, "We do not suggest that a competence in so vast and complex a field as planning can be created by a university curriculum: we suggest, rather, that the disciplines here made available may help to develop those habits of thought and of action, and that vision of the world which, when augmented by further growth and experience, are necessary bases for a later competence."

At Massachusetts Institute of Technology

By ROLAND B. GREELEY*

THE planning division of the M. I. T. School of Architecture and Planning offers both undergraduate and graduate courses leading, respectively, to Bachelor's and Master's degrees in City Planning. These courses are parallel to but distinct from the architectural courses offered by the school. The term *city planning* is somewhat misleading in that both undergraduate and graduate courses stress planning at all governmental levels, and deal to some extent with all types of regions.

The school aims to give students a practical foundation in the techniques and disciplines which would be required of a professional planner working at town, city, state, regional, or national level. Though there will be significant differences in the application of these techniques depending upon the size and characteristics of the area to be planned, the teaching program is based on the assumption that the techniques themselves will vary but little whether the planning area is a town or an interstate river valley.

The planning and architectural students work together on many of their problems. Particularly is this cooperative work stressed in the case of such problems as those involving residential areas, commercial centers and airports.

A majority of the graduate students have had training and experience in architecture, landscape architecture, or engineering; others received training in the social sciences, especially economics

* Assistant Professor of Regional Planning, Massachusetts Institute of Technology.

and sociology. Although some technological background is ordinarily required of graduate students, and map work is essential, specialization or experience in the humanities is considered to be fully as useful as specialization in graphic and technical subjects.

Individual courses of study, required of all planning students, include the following:

Theory and Practice of City and Regional Planning (lecture courses).
City and Regional Planning (project work).
Site Planning.
Administrative and Legislative Problems (given by Flavel Shurtleff, Counsel for the American Planning and Civic Association).
Land Economics—Urban and Rural (given by Dr. Homer Hoyt, Director of Economic Studies, Regional Plan Association of New York).
Urban Sociology.
Sanitation and Public Health.

Elective courses include a wide variety in the fields of architecture, engineering, economics, and other physical and social sciences. Through cooperative arrangements with Harvard University, M. I. T. graduate students may take courses offered by the Littauer School of Public Administration, the School of Design, the Geography Department, and other branches of the University.

The backbone of the course is the project work, practically all of which is carried on under actual rather than theoretical or simulated conditions. Master Plan and Zoning studies of actual towns and cities in the Metropolitan Boston area, plans for rehabilitation of blighted sections of Boston or adjoining cities, plans for redevelopment of port facilities, for extension of transit lines, for overcoming deficiencies in recreation facilities, for eliminating traffic bottlenecks, or for opening up new subdivisions are prepared on the basis of first-hand inspection of actual conditions and direct consultation with appropriate officials and lay persons. Frequently student suggestions have been adopted in part by the governmental agencies concerned. In many instances student contacts have led directly to post graduate or summer employment following up the work initiated as a school project. At least one summer of practical experience in a planning office is a requirement for the planning degree.

All students work on a problem in metropolitan regional planning, but thus far actual problems have not been worked out to give students experience in state or interstate regional planning. Research projects in such fields are used as a substitute. Students study in some detail and make oral presentations of such problems as flood control, soil erosion, federal "authorities" vs. interstate compacts, state planning legislation, and rural zoning. Seminars on state and regional planning theory and practice, led by outside lecturers as well as faculty members, complete the student's picture.

In city planning and planning for sections of cities, standards of design and of engineering construction play an important role: the student must become conversant with the physical facilities which constitute the city, with the basic principles of their construction, and with the criteria by which the interrelationships of these facilities may be judged to be good or bad. In regional planning the man-made facilities assume less importance than the relation of man to his natural environment. Hence, in teaching regional planning, emphasis is placed upon the development and utilization of natural resources and upon the social, economic, and political problems arising therefrom. Attempts are made to

familiarize the students with the principal current problems, with the functions of the various federal, state, and special agencies set up to cope with these problems, and with the history of major state and regional planning programs.

At McGill University

By JOHN BLAND*

THE need and the possibility of planning which is apparent today has caught the attention of several departments of McGill University. The first steps in developing research and teaching facilities in this new field are being taken. The Departments of Economics and Sociology, and the School of Architecture have already been active; and the newly-formed Department of Geography is interested in cooperating with the former in expanding and coordinating the work now being done.

Preliminary Studies

A study has been made of the planning courses now offered or proposed in other universities,[1] and a program has been outlined for McGill, leading eventually to a graduate degree.

A proposal for an Institute of Planning drawn up in cooperation with Mr. Hermann Herrey of New York has been submitted for consideration. It is suggested in this proposal that: (1) graduate students trained in economics, sociology, engineering or architecture be grouped in teams, each applying his own professional equipment to city and regional planning problems; (2) lectures and seminars be organized to outline techniques of planning; (3) a program of visiting lecturers be established in order to bring the students into direct contact with leaders in the field; (4) a period of supervised practice be required; and (5) the findings of the student teams which contribute to the field of planning as a whole be published.

The immediate program developed by the Advisory Committee on the School of Architecture is as follows: (1) research fellowships under the combined direction of the Departments of Economics, Sociology, Geography, and Architecture; (2) the publication of research work; (3) seminars to bring together members of the different departments who are approaching the same problem from different points of view; (4) the development of a City and Regional Planning Library; (5) a program of public lectures; and (6) the establishment of a chair of City and Regional Planning.

Development

In 1944 the School of Architecture sponsored a course of public lectures on Housing and Community Planning given partly by visitors and partly by members of the staff. There were eighteen lectures on different aspects of planning with particular reference to postwar opportunities in our area. The occupations of those attending the lectures were as follows: architects 31, students 20, civil servants 15, material suppliers 13, armed forces 6, real estate 5, university staff 5, builders 4; and there were 56 others who did not give their occupation. A question ("About which would you be interested in knowing more?") put to the

* Associate Professor of Architecture and Director, School of Architecture.

[1] *Report of the Town and Country Planning Summer School* (London: England: Town Planning Institute, 1944); Hugh S. Morrison, *Education for Planners* (National Resources Planning Board, June 1942!) John Merriman Gaus, *Education of Planners* (Cambridge: Harvard University Press July 1943); *The Evolving Architect*, I and II (Association of Collegiate Schools of Architecture: 1944).

group at the conclusion of the series produced the following replies: 25 said housing, 21 site planning, and 19 regional planning; 18 were interested in finance, 17 in taxation, 16 in traffic, 14 in planning law, and 13 in the social background of planning. Thirty-four questionnaires were completed. The lectures given in this course have been published in book form.[2]

A further course of public lectures on "Building and Equipping a House" was arranged in 1944, with an enrollment of 1059 people. The material presented in this course was necessarily very general in character, but an attempt was made to outline considerations in choosing a site.

Miss Jacqueline Tyrwhitt, A. M. T. P. I., A. I. L. A., of the Association for Planning and Regional Reconstruction (London) visited the University in May 1945 and lectured on planning surveys. She revealed that a great deal of careful, scientific planning work is being done in England. We are grateful to Miss Tyrwhitt for giving us a complete collection of British wartime publications on planning. We are anxious to maintain contact with planners in Britain who are rapidly developing both methods and theory.

The planning function is growing. At present the greatest need is for research and the definition of common terms and methods. This will be the basis for the development of methods of rapid surveying, of sampling conditions and attitudes, and of establishing trends. Planning is still an art rather than a science and precise surveys and a joint examination of theory are needed now. During 1945, therefore, in addition to public lectures we are going to form a permanent group of those already working on phases of planning. We hope to combine weekly discussions on theory with field work, to be done possibly with the help of undergraduates in the different departments. In this way we shall have the experience and the integration of knowledge to make a firm basis for a graduate school of planning in the near future.

[2] *Housing and Community Planning*, (Montreal: McGill University, 1944).

At the University of North Carolina

By R. B. HOUSE*

ALTHOUGH the program for a proposed graduate curriculum in planning at the University of North Carolina is still in the process of development, authority to set up and to staff the curriculum has been granted to the President by the Board of Trustees. The plan is for the curriculum to have its status in the Graduate School of the University and for its research and training laboratory work to be in the Institute for Research in Social Science. The objectives and content have been generally agreed upon in a series of preliminary conferences. The purpose of the program will be to introduce the student to methods of study and analysis of planning problems, and to give practice in the application of planning techniques.

The two-year graduate program will be established in the fall of 1946. Students with background in any of the following fields will be admitted: economics, political science, sociology, geography, social work, public health, home economics, forestry, architecture, land-

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scape architecture, engineering and law. Several curricula in the field of planning have been projected and some of these have been formulated. The prerequisite training required for admission to these several curricula is being studied and is in process of statement. Information concerning the program and its administration will be published in a special bulletin to be issued by the Graduate School.

With the exception of certain courses required of all students, the program of instruction will vary with each individual, depending on his previous training, his aptitudes and interests, and on how he plans to function as a member of the planning profession.

In view of the pioneering work in regionalism and planning over the last twenty years by Howard W. Odum and his associates in the Institute for Research in Social Science, and in view of the Institute's newer plans for work in applications of social science, it is not surprising that graduate training in planning at the University of North Carolina will place emphasis upon the social sciences in relation to design and physical planning, and that the field is conceived of as much broader than city and metropolitan planning.

The curriculum will be made up of four major groups of courses as follows: (1) those courses relating directly to regional, state, county, city and town planning; (2) graduate courses selected to prepare the student in the social, economic, political and physical aspects of planning; (3) courses selected to make up deficiencies in previous education and experience; and (4) electives which will enable the student to concentrate on a particular field of interest. A period of internship in a planning agency is being considered as a requirement for all students.

The curriculum will draw upon the following resources of the consolidated University of North Carolina: Institute for Research in Social Science, Institute of Government, College of Engineering and Agriculture, School of Public Health, Division of Public Welfare and Social Work, School of Law, and the Departments of Architecture, Landscape Architecture, Economics, Political Science, Sociology, Geography and Forestry.

At Syracuse University

By L. C. DILLENBACK* *and* ROBERT F. STEADMAN**

SYRACUSE University has given serious study over a period of years to the development of a curriculum designed to provide training and to encourage research in the "urban sciences." Now that World War II has ended, official announcement of the specific program may be expected.

Although members of several other college faculties within the University have collaborated, the program as now outlined is primarily a joint staff product of the Maxwell Graduate School of Citizenship and Public Affairs, and the School of Architecture. The aim throughout is to combine technical skills and methods with insight into the social science fields. This objective is not an easy one to achieve within the university curriculum as usually organized; but its attainment is of vast importance to the future urban mankind.

Demand for personnel trained in the broad areas of knowledge required in

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urban planning has long exceeded supply. This condition gives promise of aggravation, not alleviation, in the years ahead. The adjustments to be made in industry, trade, finance and construction as a result of war discoveries and dislocations would insure this, entirely apart from the grand scale public works projects proposed for our local, state and federal governments. Government is not alone in its need for planning specialists. Private enterprise has a vital interest in these matters, as indicated in the work of the United States Committee for Economic Development and in community studies made by Chambers of Commerce and other groups of business men.

American universities face real difficulties in producing men trained to make an effective contribution in urban planning. Architects and engineers commonly lack the necessary knowledge of social organization, economics, geography, government, public finance, and public administration. Conversely, students well prepared in one or more of the latter fields usually have no acquaintance whatever with the technical skills involved in physical planning. The Syracuse program aims to bridge this traditional gap.

The main emphasis of the Syracuse plans is upon training of individuals who intend to make a life work of contemporary planning. However, the cultural values of any course of study which develops a better understanding of modern urban organization and institutions are recognized. It is expected that many students not intending to become specialists in planning will wish to elect the courses provided, on both graduate and undergraduate levels. An informed and constructively critical citizenry is essential to successful community planning in a democracy. The graduation of potential business, professional and educational leadership with a grasp of planning fundamentals would alone justify initiation of the program, entirely apart from its vocational aspects.

Plans for a master's degree in planning are well advanced. For most applicants it will require four semesters of graduate study. Student programs will be individualized, according to undergraduate background and field experience in planning. In general, three main groups of students will be admitted, and the philosophy of the program is revealed in the separate scheduling of their first year's work. These are: (1) Holders of the usual type of bachelors' degree in architecture or engineering who will spend two terms or semesters in developing or expanding their social science backgrounds. A wide variety of upperclass and graduate courses in sociology, geography, political science, economics, history, business administration and the humanities are available on the Syracuse campus, and selections will be made from these to fit the special needs and interests of the individual candidates for the degree. Since Syracuse University Bachelors in Architecture have an exceptional breadth of social science courses, the two-semester requirement may be modified somewhat for them. After these two terms of preparation, this group of applicants will join the other two groups for another two terms of study.

(2) Holders of A.B. degrees with a major in political science, economics, sociology, geography, or history will devote two semesters to technical subjects in Architecture and Applied Science (Engineering) in order to supplement their Liberal Arts preparation with the special skills needed in planning. It is believed that one intensive academic

year will familiarize this type of student with the terminology and the methods of physical planning, after which he will be ready to join the final group for the two semesters of final training.

(3) Men and women now actively engaged in planning work who feel the need for advanced training to overcome their "blind spots" or deficiencies will have study programs tailored to individual measure. The basic principle in such cases is to provide a minimum coverage of *both* social studies and technical essentials before the candidate joins the other groups for the two final semesters.

The heart of the last-two-semester period is a course meeting every day, and the carrying of six hours of credit each semester. This course will be taught by a staff of ten or twelve instructors and will include the following subjects, although not necessarily in this precise order:

1. The philosophy of urban planning—introduction.
2. The trend of urbanization.
3. The geographic location of cities in relation to tributary areas. (The city in relation to the region.)
4. The city in relation to industrial resources, production processes and market outlets.
5. Characteristics and trends of the urban population.
6. Local topography in relation to city development, drainage, land utilization, etc.
7. Factors in localization of industrial and commercial enterprises.
8. Social and cultural services.
9. Urban standards of consumption and services of supply.
10. Urban political organizations and attitudes.
11. The law of municipal powers.
12. Governmental structure in urban and suburban areas.
13. Urban land economics and urban land policy.
14. Real property taxation.
15. Legal and administrative devices for control of urban land use.
16. Governmental functions.
17. Architecture and planning principles in relation to the use of design.
18. Engineering and surveying.
19. Graphic representation.
20. Research methods, including the use of statistical techniques.

All candidates for the master's degree in planning will take this course and in addition will take a research course with three credit-hours each semester. Research projects will be directed by the head of the planning program, but the staff resources of the several faculties participating in the program will be available for consultation and assistance.

In addition, two other three-hour courses may be taken by degree candidates during each of these two semesters; and these will be chosen according to the student's own interests and needs. Candidates earning this master's degree will have the well-rounded knowledge needed to undertake a career in the field of planning.

The undergraduate program in planning, though long under consideration, is as yet less well defined. Tentatively, however, it is expected that new courses will be offered in the history of city planning, elements of planning, and principles of planning, to total 24 semester-hours of credit. Thus, an undergraduate concentration in urban planning will be available at Syracuse University.

At the University of Wisconsin

By RICHARD U. RATCLIFF*

MORE than a year ago the president of the University of Wisconsin established a university committee on Regional Studies under the chairmanship of John M. Gaus of the Political Science Department and representatives of all appropriate divisions "to explore the possibilities of and to organize a program of teaching, research and extention service in the field of local, community and regional planning." This action was a recognition of a long Wisconsin tradition of positive faculty interest and participation in the solution of social and economic problems of the state and of the nation. It was an action which took cognizance of the needs of governmental units for staff services and the emergence of planning techniques into a recognizable if imperfect system. The establishment of this committee was an acknowledgment of the necessity for cutting across divisional lines in order that the full resources of the University might be marshalled and the widespread interest in matters related to planning might be brought into focus.

The interests of the members of the committee overlap many of the basic aspects of planning. The chairman, John M. Gaus, has developed the fields of regional planning, the planning function in government, and administrative planning. Harold Groves is primarily interested in public finance and taxation. Thomas McCormick is working in the fields of population and urban sociology; Leonard Salter deals with general land economics and with rural regional planning; John Kolb is known for his work in the problems of rural and village communities; Glenn Trewartha is a regional geographer; James Woodburn works with certain aspects of utility engineering, and Richard U. Ratcliff is a specialist in urban land problems.

The Committee began its work in a friendly and favorable atmosphere. The University and the commonwealth which it serves have long been closely tied together. A long line of distinguished faculty members has served the state and its communities in working out their problems. They have aided in the drafting of progressive legislation, served on boards and commissions, advised governors and administrative officers, and gone out into the state to provide expert aid to individuals, communities and regions. For example, in the planning field members of the University faculty are serving on the Madison Area Planning Council and on the Wisconsin State Planning Board. There are few state universities which over long years have shared as fully in molding the destinies of those who support it.

The Committee was also favored by an historic interest in land economics and natural resources. The work of Van Hise in the field of conservation and of Ely, father of land economics, has left an indelible impression upon the institution. Wehrwein, with his noted studies in county zoning and regional problems, as well as his interest in urban land problems and the rural-urban fringe carried on this great tradition with distinction. The *Journal of Land & Public Utility Economics*, now published at the University of Wisconsin, devotes many of its pages to planning subjects and is an important stimulus to scholarly activity by providing an outlet

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for the writings of faculty members and graduate students.

Another encouraging aspect of the Wisconsin situation is the present widespread faculty interest and activity in many fields which bear upon planning. City planning courses offered in the Civil Engineering Department of the College of Engineering deal with street, traffic and utility problems. The Department of Sociology provides a broad base of interest in population problems, urban sociology, and cultural anthropology. The economic problems are well covered in the program of the Department of Economics; public finance, public utilities and transportation are important fields. The Department of Agricultural Economics and the Department of Rural Sociology in the College of Agriculture are concerned with the economic and cultural aspects of non-urban areas. In these departments there has been a continuing program of research and teaching in land utilization, village and rural community problems, the rural-urban fringe, and rural regional planning. In the Political Science Department the planning functions of the federal government, states, municipalities, and rural local governments are covered with considerable emphasis on administrative planning. The geographers have contributed to techniques of regional analysis as well as in the field of economic geography. Out of the interests of members of the History Department a University-wide committee is sponsoring a program of regional economic and cultural research with particular reference to Wisconsin. Work in urban land economics is now centered in the School of Commerce and is related to a program of teaching and research in applied real estate problems. The subject of housing, so closely associated with planning, is a focal point of interest among the School of Commerce, the Departments of Economics, Sociology, and Political Science, the Department of Home Economics and the College of Engineering. An undergraduate major in American institutions permits a choice of programs of studies in rural life, urban life, and civil service.

One of the first steps of the Committee on Regional Studies was to analyze the job opportunities in the field of planning, to provide some evaluation of the future demand for professional services and to assure the evolution of an educational program fitted to actual positions. The Committee then decided to direct its efforts initially to the development of a graduate study program but has not closed the door on undergraduate curricular arrangements. At the end of the spring term of 1945, a committee report was prepared and discussed with the University administrative authorities. Their full approval was secured to proceed with the preparation of a specific university program of education and research in the planning field. To facilitate this activity an appropriation of funds was made to permit Richard U. Ratcliff to devote a substantial share of his time during the coming year to the work of the Committee. It is anticipated that in time for the fall term of 1946 a graduate program will be in full operation, and that the program will have evolved to such a point by January (1946) that students wishing to pursue it may begin without risk of lost time.

Filtering Down and the Elimination of Substandard Housing

By RICHARD U. RATCLIFF*

Filtering Defined

IT IS a common argument that the needs for additional housing on the part of the low income groups can be met by the production of new housing for higher income groups. Thus, used houses will be released to be passed down to successively lower levels until the effect has reached the bottom of the market. This process is popularly referred to as filtering down and is described most simply as the changing of occupancy as the housing which is occupied by one income group becomes available to the next lower income group as a result of decline in market price, i.e., in sales price or rent value.[1]

In its application to the problem of substandard housing, the argument is that filtering down is the normal process for providing housing for the poor and that to eliminate from use those dwellings which are substandard we need only to build enough new units to be introduced into the supply at the usual levels. Thus the solution for substandard housing conditions is a rate of housing production which will release a sufficient number of used dwellings to successively lower income groups so that the substandard housing may be retired and the families at the bottom of the income scale may have the opportunity to live in housing of acceptable quality at no higher rents than they formerly paid for substandard accommodations. This argument is persuasive for it is commonly observable that much housing is occupied by successively lower income groups over the years, and that substandard housing conditions frequently occur in structures that have seen better days. But we must seek an answer to the failure of this filtering process, up to the present, to eliminate anti-social housing conditions. We must have a basic understanding of the circumstances within the housing market under which filtering is encouraged or is inhibited.

Surplus as a Requisite

A condition precedent to filtering down is some excess of housing supply over demand at the level from which the filtering is to originate. There must be an advantageous alternative in housing for at least some of the group. The surplus of housing may arise either from an increase in supply or a decrease in demand. New production or conversion can increase the supply; decline in effective demand may result from the following situations: (1) Family dissolution. (2) Families moving out of the income-demand group because of change in income, change in family composition, or emigration from the market area. Each of these situations has its opposite. Families are constantly being created by marriage and additional families are entering the income-demand group for the same reasons which lead them to move out of the group. It is apparent, therefore, that the forces of decline in demand must exceed the forces of increase in demand if a net surplus of housing is to result from a change in

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[1] The term "filtering up" is sometimes used to designate this phenomenon. Over the long run neither the houses nor the families move upward on a quality or value scale. On the other hand, there may be temporary market situations of surplus which result in drastic declines in market price and which enable some families to enjoy for a time a higher quality of housing at no increase in outlay.

demand. On the supply side, a surplus may be created when the number of new units produced by new construction or conversion exceeds the number of units lost through demolition. Changes in effective supply also may be brought about by the release of units from the next higher price level and the loss of units to the next lower level. Whatever may be the combination of these influences on demand and supply in a given stratum of the housing market, no filtering down from that level can occur unless the net product of the forces is an excess on the supply side. Furthermore, it is essential to the process that at each successively lower level there must be a surplus if the effect is finally to reach the bottom of the market and provide alternative accommodations for the families which have been living in squalor. If, as the original surplus is passed down the line, it is dissipated and absorbed before it reaches the lowest stratum, no substandard housing will be replaced.

For the purposes of this analysis of filtering, the general level of family incomes will be assumed to remain constant.[2] It is apparent that, if all family incomes at all levels should move together either up or down, each income group would tend to maintain the same relative position in the housing hierarchy. However, if the income of certain groups should be changed, an exchange of dwellings might occur in order to reestablish the normal relationship between income levels and levels of housing quality. Even though the income changes included an increase in the incomes of those families occupying the worst housing, these readjustments would not result in emptying the substandard units unless new construction were to take place; there would be simply an exchange of occupant families.

[2] It is also assumed that rent-income ratios remain constant.

It is requisite to the process of filtering not only that there shall be unoccupied housing units available, but that they shall be available at a favorable price, a price lower than that which they have been commanding. The surplus of housing must be sufficient not only to provide units for filtering purposes, but also to weaken the price. A majority of the families in the housing market are trying constantly to better the existing relationship between their incomes and the quality of their housing accommodations. Filtering does not begin until one or more householders at a lower income level discover that the used housing which is released represents an advantageous alternative to the housing which they are presently occupying. They find it to be of better quality or more suited to their present needs in physical characteristics or location and available at a price which they are willing and able to pay. Likewise, newly-built housing is filled by families which find it to be available and also to be an advantageous alternative to their present housing.

Change in Quality

It is usually assumed that the occupancy of housing by successively lower income groups is concomitant with a deterioration in the quality of the accommodations. This relationship obtains in a general way, but filtering could take place without any significant change in quality; and the rate of filtering is not proportionate to the rate of deterioration. Decline in quality resulting from physical change, obsolescence, and a degeneration of the environment is only one of several factors which condition filtering.

Quality decline is significant only when the housing is put at a relative disadvantage in the market and a downward adjustment in price results. During the

present shortage in war-crowded communities, the pressure of demand is so great that prices have been moving up instead of down although the quality of the housing is generally declining with the passage of time and because of the difficulties of effecting proper maintenance. During the depression of the Thirties, on the other hand, filtering was relatively rapid because of large vacancies in certain segments of the market which resulted in rapid downward adjustments in price. In any one segment of the market, quality decline is not translated into price decline unless some of the occupant families find other new or used housing with a better quality-price relationship and at a price or rent which they can afford. The resulting excess of supply created by the units which they have vacated brings about a price reduction.

We may conclude with respect to physical deterioration, obsolescence, and neighborhood decline that these factors are not, of themselves, the causes of the filtering down of housing. Quality is a relative matter, so that these forces lie dormant until some better housing value appears; then the old and obsolescent dwellings are abandoned, become a drug on the market, and are offered finally at a lower price to the next lower income group as better values than the still older and more obsolescent dwellings in which these families have been living.

Need for New Construction

It should now be clear that in a static or slowly growing community, filtering will not occur unless there is a sufficient amount of new construction to create a surplus of supply at some level. The deterioration of housing quality alone will have no effect except to bring about a gradual lowering of housing standards in all strata of the market. In communities which are suffering a continuing decline in the quantity of demand due to the degeneration of the economic base, a surplus of housing may be created as demand declines and a general improvement of housing accommodations at all income levels might result from the filtering process. But in healthy areas some new construction is required to start the filtering process. Furthermore, it appears to be fundamental that no more units will be released for filtering down from any given market level than constitute the surplus created by this new construction.

Surplus as a Check on Production

It is a well established principle that in a normal market an excess of supply over demand serves as a check on new production. If at any given level in the housing market new construction of dwellings proceeds at a rate faster than the increase in demand, vacancies will rise to a point where the rents and prices of existing units will react. As these prices fall in response to continued production, prospective purchasers of new homes will have a wider choice of existing housing at prices which will become more and more favorable in comparison with new housing. It will become increasingly difficult to sell new housing in competition with existing units which have been reduced in price, and construction will be retarded and ultimately stopped. New construction will not revive until the surplus is absorbed and the price level for housing at this level has stiffened. Thus, the number of units which can be released for filtering at any given level of the market is limited by the effect which the filterable surplus will have on building activity. If the new building takes place in the higher price levels where the total housing stock is relatively small, the number

of units which can be added before the inhibiting effect is felt also will be small. If the new housing is added in the middle and lower-middle ranges, in which the largest proportions of the total housing stock is found, the increment may be substantially greater in number and the ultimate effect at the bottom of the market, at the end of the filtering process, will be correspondingly larger. For example, in Milwaukee, a 10 percent increase in the number of units in the $20 to $30 range amounts to more than 5,000 units, whereas a 10 percent increase in the $50 to $60 range is about 1500 units.

In the long run, a surplus of units which accumulates at the bottom of the market probably will have an inhibiting effect on new construction no matter at what level the building is taking place. The deflationary effect of an excess of supply can move upward through the market strata even as it may move downward. Theoretically, owners will remove their properties from the market by demolishing the structures when rent falls below the level of taxes and maintenance. Actually, there is a considerable reluctance to demolish housing structures and relatively few have been physically removed from the market.[3] Upkeep is neglected, taxes are allowed to become delinquent, and the properties are milked by their owners as long as possible. Owners hold on in hope of better times to come. In any event, it is clear that, if the filtering effect is to operate, it is necessary to eliminate at the bottom substantially the same number of units which are added to the market at some higher level, whether this removal results from natural economic forces or whether it be by compulsion.[4] This principle suggests that, in order to secure the greatest possible advantage from the filtering process toward the elimination of substandard housing, a program of enforcement of housing regulations should be instituted to insure the removal of the worst housing units as fast as additional units filter down to the lowest level.

Surplus at the Bottom

We should distinguish between substandard housing and the lowest stratum in the housing market. At the present time, in most of our communities the lowest level is composed almost entirely of substandard housing and, in fact, some of the units in higher levels are in violation of housing codes. The elimination of all substandard housing from the market will mean that the lowest rent level, which in terms of rents paid will be no higher than before, will contain only housing which is socially acceptable and not in violation of law. In order to permit the retirement of the substandard units which are now occupied, enough units must filter down to the bottom so that not only may the substandard units be condemned and retired but also there will be a sufficient surplus of acceptable housing to bring its rent down to the level of rents which were paid for the displaced housing. We do not yet know enough about the economics of slum housing to be sure whether the low rents for substandard housing are made possible by the illegal use of the structures, the overcrowding, the neglect of minimum upkeep, and the failure to install minimum equipment. To the extent that such is the case, it may not be possible to provide acceptable used hous-

[3] It has been estimated that the number of dwelling units demolished during the decade and ending in 1940 was about 40,000 per year. See *Housing and the Increase in Population*, Serial No. R 1421, U. S. Department of Labor, Bureau of Labor Statistics, U. S. Government Printing Office, 1942, Table 2, p. 12.

[4] This statement assumes that the housing needs at the bottom of the market have been met.

ing at rents as low as slum dwellers have been paying. The floor of rents will be the sum of taxes and upkeep plus the amortization of repairs or equipment which may be necessary to make the dwelling legally habitable. If the owner cannot obtain a rental return from the former slum dwellers sufficient to meet fixed charges, he will be better off to close or demolish the structure.

Accelerated Depreciation

If substandard housing is to be removed as a social menace through the filtering process within a reasonable length of time, a high price will have to be paid in terms of a loss in value of the existing housing stock. It has been pointed out that housing units filter down only when they decline in market price so that successively lower income groups can afford to occupy them. The faster the value decline, the faster the filtering. It will be recalled that our cities now have a substantial complement of substandard housing. Unless these conditions are to be allowed to remain indefinitely, it will be necessary to retire these dwellings and to replace them with dwellings at the minimum standard and available at no higher rents. Thus all the housing which then constitutes the lowest stratum and which is just above the level of tolerance will stabilize at lower rents, and thus lower values, than before. The deflation at this level will infect the next higher level, and so on up the line, until the entire stock of housing has suffered a downward readjustment in value. Once having retired all of the existing substandard housing, the rate of value decline need only be sufficient to permit the removal of dwellings just so fast as they deteriorate into the substandard category. But to rid our cities of existing slums, the rate of filtering, and thus the rate of value loss, must be speeded up so that the backlog of substandard units may be absorbed.

Time-dimension in Filtering

The significant time-dimension in the filtering process is the period from the introduction of the new housing into the market until the effect is felt at the bottom of the market in terms of acceptable housing units made available to families presently living in slums. The original impulse is transmitted down through the market in a series of transactions. The real estate market is notoriously imperfect; the dwelling space which is traded in the market is not standardized and easy to compare and it cannot be transported nor sold from samples; the buyers and sellers are not well informed and bids and offers are often made on the basis of non-economic impulses and without knowledge of other transactions or other bids and offers. These market imperfections lead to a sluggishness in market adjustments both in terms of the time required to effect the adjustments and the degree of the adjustment. The market is often insensitive to mild impulses; on the other hand, a strong impulse often leads to over-compensation. Delays in market reactions are brought about also by the existing tenure arrangements. Where a rental unit is under a year lease, neither the tenant nor the landlord is free to make changes in occupancy nor rental until the lease expires. Home owners are free to act at will but are prone to delay action or to decide against it even when the financial advantage is obvious. Sentimental attachments to the home and social ties in the neighborhood are strong inhibitors. Furthermore, the accounting concepts of the majority of home owners are usually unorthodox and unenlightened so that they are not always aware

of the actual relative costs of occupying alternative accommodations. Finally, when capital is required to effect a change in housing, the home owner usually must sell his present dwelling in order to provide the down payment for a different one.

It seems reasonable to conclude that the stronger the impulse, i.e., the greater the surplus, the higher will be the rate of filtering. The fewer the obstacles of tenure, the faster will be the market reaction; thus filtering will be more rapid in the rental market than in the sales market. We may assume also that the larger the market, the more sluggish will be its response or, to be more exact, the longer it will take to effect a full readjustment throughout the segment of the market. Thus it is probable that the downward movement of dwellings through the upper ranges of the market may be more rapid that at lower levels. Perhaps the most important determinant of the time-dimension in filtering is the number of transactions involved in the transmission of the impulse from the point of surplus to the lower reaches of the market. The greater the value-distance, the larger is the number of transactions which will be involved. A surplus which appears among high-priced homes will be far longer delayed in its effect at the bottom than a surplus of modest working-class dwellings.

The fact is that we do not know how long it takes for a dwelling to filter down to the bottom of the market. We do know that the oldest houses in the community are often those of lowest quality, but we have no data on how long they have been at the lowest quality level. Furthermore, we find many dwellings in the substandard category and just above it which are middle-aged and, in fact, younger than much of the housing of better quality. There is adequate demonstration that the factors which induce filtering are varied and complex; that they vary among localities and among types of housing. But we do know enough about the subject to be sure that filtering is a process which takes many years to be effective; that it is no quick cure for substandard housing ills.

Market Experience with Filtering

It is assumed generally that the filtering process has been operating in our American cities down through their history, and that our low income groups have been provided with housing in this fashion. The fact is that a good deal of our present housing stock was built at or not much above the slum level. Much of the housing now in violation of local codes is illegal not because of progressive deterioration but because of original design and lack of minimum equipment. The tenement houses of the Eastern cities, the Negro housing of the South, and the suburban slums found in the outskirts of almost any community are testimony to the fact that a substantial share of the housing of low income groups did not filter very far, if at all. A special tabulation of data from the 1940 Housing Census reveals that a surprisingly large proportion of the new single-family dwellings built between 1935 and 1940 were low-value shacks.

It is often assumed, at least tacitly, by persons advocating the stimulation of the filtering effect as a remedy for substandard housing that the respectable housing which is added to the market will find its way to the bottom without substantial change in quality. The facts do not bear out this assumption. It must be remembered that the essence of filtering is value decline; that this decline is based upon a fall in the desirability of the housing space provided in relation to alternatives and is ex-

pressed in the cost of housing to the tenant. Thus, a structure which filters from the upper levels will inevitably have declined severely in quality of accommodations if not in an absolute sense, at least relatively, even though the standards may still be above the acceptable minimum. Sometimes the loss in quality results from a deterioration of the neighborhood; sometimes from a deterioration of the structure, for as rent-producing capacity falls, upkeep is likely to be neglected. Large dwellings (single-family houses, flats and even apartments) rarely find their way to the bottom in their original form.[5] Normally they are cut up into smaller units or, if not, they will be shared by more than one family. Supporting evidence for this statement is found in the chronically cramped quarters of the families of low income.

There can be no disagreement over the conclusion that, up to the present time, the filtering down process has not provided decent housing for the low income groups. The very fact that so many dwellings have been provided directly for the lowest income stratum suggests that the end product of filtering has not been sufficient to meet the space requirements of this group. The low quality of the housing which is occupied by these families demonstrates the fact that the filtering process has not provided fit housing.

But the question to which we should address ourselves now is whether in the future we can count upon this natural market process to force out, within a reasonable time, the substandard housing which menaces society and whether, as part of a positive housing program, a controlled stream of acceptable housing can be precipitated to the bottom of the market by a conscious manipulation of the forces which condition the filtering process.

During the period of urbanization in this country, new construction has hardly more than provided a sufficient number of dwelling units to meet the total demand. In fact, in the long run, the normal market forces tend toward this equilibrium. In most communities all but a very small proportion of all structures ever built are still standing and in use. The fact is that a reasonably well built building will last almost indefinitely if properly maintained. We have been adding housing as our cities have expanded but we have retired almost no units from use. The total number of dwellings demolished by reason of dilapidation, lost through fire, and removed to make way for a change in land use is very small. There has been only one short period in recent times when, in a few cities, there existed a sufficient surplus of units at the bottom of the market to permit their removal without direct replacement. In Milwaukee, Chicago, and other cities, a few hundred shacks were demolished during the early Thirties, but not without considerable persuasion by city officials and only when demolition crews were provided free of charge under the WPA program. The owners were reluctant to act in spite of the fact that many of the structures were vacant or were not producing a rent return sufficient to meet taxes. The reason that the filtering process has never been effective in providing acceptable replacements for substandard units is that the conditions which are essential to filtering have never been present; there has never been enough new construction of housing to fill all needs and still to leave a residue of decent housing at the bottom; almost no housing has been retired from use, regardless of its adequacy or condition.

[5] See Miles L. Colean, *American Housing* (New York: The Twentieth Century Fund, 1944), p. 185.

Long-run Possibilities

In the long run, if a sufficient number of new dwellings were built not only to accommodate increases in total demand but also to offset those dwellings which with the passage of time fall below the currently accepted minimum standard, it might be possible to maintain the level of quality in the total housing stock provided that the substandard units actually were removed. This conclusion is based upon hypothesis since the filtering process in this country and probably in all other countries has not actually operated in the manner which is often assumed. Since we have never removed units from the bottom in substantial quantity and since we continue to build units which are originally substandard, the number if not the proportion of substandard units in our housing stock has been increasing steadily. But even if we could count on the filtering process to maintain our housing stock at an acceptable level of quality, we must start out with a housing inventory which does not contain anti-social housing. At the present we are far from that happy state. Can the filtering process be an effective part of a program to reduce the existing housing blight so that in future years the normal market forces in collaboration with socially enforced removal of substandard units may operate to maintain our housing resources at the desired level of quality?

Filtering Can't Be Forced

It has been argued that a large volume of house production will solve the housing problem. By flooding the market, it is said, a sort of forced filtering will ensue which will provide the lowest income groups with a sufficiency of adequate housing. The substandard housing will be vacated and its owners ultimately will remove it from the market. This argument is often presented by its proponents with greater indirection than has been used here, and with various refinements; but the central line of reasoning is the same.

The first item of significance in considering this argument is that we face the postwar era with a severe housing shortage at all levels in most urban areas. Before any beneficial filtering can take place we must build enough units to reestablish a reasonable balance between total demand and total supply. In addition, since many communities will continue to grow, we must provide additional housing for the new families. But we will need still more production. It has been demonstrated here that filtering cannot take place except in the presence of a surplus; thus new building must be sufficient to produce this surplus and this surplus must be sufficient to be effective in softening the price level not only in the value group into which the new housing is introduced but also in the lower value groups through which the impulse must pass on its way to the bottom. It is likely that these lower value groups will contain a much larger number of units of supply than the stratum to which the new housing is added. A price adjustment will be delayed until a sufficient number of units has been passed down over a period of time to bring about a price reduction. Finally, the housing surplus which ultimately filters down to the lowest level must be sufficient to provide substitute accommodations of acceptable quality for all those families presently living in substandard units plus a surplus of decent units just above the level of tolerance which is large enough to force down the rents to a point within reach of the low-income families. These requirements add up to a very large volume of house production, though no one can

presently measure it. There can be no real doubt that the building industry can in time provide it, but no one expects to reach even the point of a reasonable balance of demand and supply within several years after house building is resumed.

A further point to be considered is the natural check on production which is created by the very surplus needed to induce rapid filtering. If this check operates, no large surpluses will be created at any point in the market, and the benefits of filtering will be even more slow in reaching the slum dwellers. We should not wish to have a run-away building boom, since the repercussions of the surplus housing which thus might be created may be worse than the slum conditions which might be ameliorated. We seek stability in residential building activity but such stability will bring with it only a slow filtering effect synchronized with the rate of removal of substandard units. A final consideration is the value-readjustment which will accompany the removal of the existing lowest grade of housing and stabilization at a higher quality level throughout the entire market. The social benefits of such a readjustment extend well up the scale, since each income group would be able to afford a higher quality of dwelling than before. Owners and investors would suffer, however, from what would amount to an accelerated rate of value depreciation. It is significant that, if the substandard housing that is removed is directly replaced by new housing (such as public housing) which the low income groups will occupy, the values of all housing structures at the higher levels will be sustained since, in effect, no vacuum has been created into which they may fall.

It has been pointed out previously that the greater the value-distance over which the filtering effect must pass before reaching the bottom, the longer will be the time interval. If filtering is to be counted on to be effective within a reasonable period of time, the mass of new housing must be made available at a modest price or rent. If the production of postwar houses maintains the same value distribution as that which characterized prewar building, any benefits which might accrue through filtering will be delayed many years. The facts are that there is every inducement to builders to build for the middle- and upper-income groups during the first years after the war when this market, which permits the widest profit-margins, is so broad and the demand so avid.

Conclusion

Our consideration of the filtering down process seems to lead to the conclusion that as a short-run remedy for the acute housing problem created by existing substandard accommodations, it is not an easily controlled device nor is it likely to be effective. In any event, it will not work unless positive measures are taken to remove substandard housing through the enforcement of police power regulations. In the long-run, once we have cleaned out the existing slum conditions, the filtering process probably can be counted on to maintain our housing stock at a fairly constant quality level provided that housing is removed from the market as fast as it falls below minimum standards, and provided that in-migration of low-income families is not so rapid as to outstrip the product of the filtering process.

Farms and Homes from Surplus Military Lands

By ALVIN T. M. LEE*

MANY of the 6,500,000 acres of land acquired by the federal government for war purposes during the period of World War II will be returned to private ownership or transferred to civilian agencies for peacetime public use. The amount that will be relinquished by the War and Navy Departments will depend, of course, upon the permanent needs of the nation for military training grounds and ordnance production. But now that the war with Japan is over, actual disposal may soon take place. Development of the atomic bomb undoubtedly will revise the ideas of those who advocated the retention of large acreages for future training purposes, for present sites may not be suitable in another emergency.

A classification of the military and naval acreage made by the Departments of War, Navy, and Agriculture shows that approximately half is unsuited to agricultural use in private ownership.[1] At the time of purchase, people in the areas classified as unadapted to agriculture were eking out a miserable level of living. Undoubtedly, most of these people were fortunate in being able to sell and move elsewhere. It would be a public mistake to return such areas to private ownership. Furthermore, much of this land, ill-adapted to agriculture, was already earmarked for purchase as future public forest. Since the government has expended time and money in assembling such land it is best that it be retained in public ownership now, thus saving future public acquisition costs and preventing a return of human maladjustments in these poor land areas. Fortunately, steps are being taken to effect such a change in jurisdiction of these lands.

The main purpose of this article is to analyze the Surplus Property Act as to its probable results in regard to the disposal of surplus rural real estate to private ownership and to make suggestions for altering the present provisions. The manner of disposal to private ownership is of tremendous importance to the rural communities in which surplus lands are situated. There are 122 sites of more than 10,000 acres in size and many of them have been classified as suited to agricultural use in private ownership. An area of this size can be redeveloped into a going community and thereby knit together the temporarily separated strands of community life, or it can be left as a gaping vacuum through which or around which people of the community must travel in their daily activities.

The Surplus Property Act of 1944 gives the framework of policy for the disposal of surplus property.[2] Section 12 of the Surplus Property Act gives first priority to other federal government agencies in disposal of surplus property. Section 13 gives next priority to states and their political subdivisions and instrumentalities, and to tax-supported and non-profit institutions. Giving federal agencies and state and local units of government opportunity to take over the property before it is offered for private sale is a commendable feature of the Act because a large portion of the land is better suited to some type of public use than to agricultural use in private ownership.

Here are the provisions of the Surplus Property Act in regard to sale of surplus rural real estate to private ownership:

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[1] Disposition of Surplus Property No. 1. Hearings before the Subcommittee of the Committee on Public Buildings and Grounds, House of Representatives, page 54, 78th Congress, 2d session.

[2] Public Law 457. 78th Congress, 2d session, Chapter 479.

As to rural land purchased by the Government after December 31, 1939, and to be returned to private ownership, former owners will have first priority to purchase followed by the former tenants, if the land was rented at the time of Government purchase. Former owners, whose land is not being returned to private ownership or no longer suited to its former use, may be extended the right to select a substitute unit in the same area if a unit is available. Land which is not disposed of under these priorities is to be divided into economic units, and if suitable for agricultural, residential, or small business purposes, will be available for purchase first by veterans of the present war and, if suitable for agricultural purposes, second by purchasers who expect to cultivate the land and operate it personally for a livelihood.

A former owner or a tenant of a former owner will be entitled to purchase land at (1) the current market value, or (2) the price for which the property was acquired by the Government, adjusted to reflect any increase or decrease in its value resulting from action by the United States, whichever is lower. Veterans will be entitled to purchase property at a price not to exceed the value placed on it by the disposal agency after taking into consideration its current market value, the character of the property, and if income-producing, its estimated earning capacity.[3]

The Act appears to be deficient in its policies by which surplus real estate is to be returned to private ownership. It seems that many of the objectives as set forth in the Act cannot be achieved. Three points of greatest concern are: (1) Priorities and price concessions are not justified from the point of view of giving fair and equitable treatment to all former owners and to the taxpaying public. (2) The Act will not permit an orderly laying out of the surplus rural land into economic family-sized farms and the redevelopment of the area into a going community. (3) The Act is inadequate in its provisions for providing farms for veterans and others most in need of farms and homes in the postwar world.

[3] From Surplus Property Board Regulation 5, Part 8305, Surplus Nonindustrial Real Property.

Priorities and Price Concessions not Equitable

Much public sentiment in favoring priority rights to former owners undoubtedly was a result of the belief that the government had stepped in and dispossessed families of their old family homesteads. Another belief was that the farmers who had been bought out were forced into idleness and that they had moved to town where few or no job opportunities existed.

Many of the supporters of the logic of priority rights for former owners could not have realized the extensive changes that necessarily take place in the farm and community improvements after land has been used for ordnance production or military training. In most areas only a few farm buildings remain, and most of these have depreciated because of the removal of fixtures and the accelerated rate of decay which occurs during a period of vacancy. The schools and churches that were in the purchased area are gone, roads have been closed, and, in many instances, large drainage ditches have been dug, thus dissecting many of the former properties. In the areas used for production and housing, most of the land has been dug up and leveled, thus mixing subsoil with the topsoil. There are concrete foundations, runways, and numerous underground pipelines. In the training areas, foxholes and trenches have been dug. The thousands of acres over which tanks have been driven have been made more susceptible to erosion.

It is the neighbors, the community institutions, and the farm buildings that give value to the old homestead. When these symbols and abodes of family and local institutions are gone, little more than commercial values remain. Only

the cemeteries are left and in a few instances even these have been removed. Under these conditions sentimental values soon disappear. It is only on the fringes of the larger areas, on land that was purchased primarily as safety zones, that the farm buildings occasionally remain and may therefore still have sentimental values.

Were farmers forced into idleness when the government purchased their land? Some undoubtedly were, others found that this gave them an opportunity to sell out and move to better areas or to higher paying nonfarm work. The degree of inconvenience occasioned was largely dependent upon the time of year the land was acquired. If it was before a new crop year there was ample time to look for other farms to purchase or to rent.

Records obtained from former owners at the Badger Ordnance Works in Wisconsin and Plumbrook Ordnance Works in Ohio show that about one-half of the former operators purchased farms elsewhere shortly after selling their former farms to the government.[4] Many of those who moved to town undoubtedly were about ready to retire and welcomed the opportunity to sell for cash.

Some of the feeling that the prices paid were inadequate may be due to the recent rapid rise in land prices. In most of the projects initial action was started and control of the land obtained during 1941 and the early part of 1942. Market values at that time were lower than at present. The United States index of real estate values (1912-1914—100) was 85, 91, 99, 114 and 126 on March 1 of the years 1941 to 1945, respectively. The index of values on March 1, 1945, was 48 percent above that on March 1, 1941, and 38 percent above that on March 1, 1942.[5] It is thus clear that an individual who was forced to sell when the index of land prices was 85 or 91 and did not quickly invest the money received in property that was increasing in price would find himself in a continuously more disadvantageous financial position the longer he waited before purchasing another farm. It is often forgotten that the price paid by the government was at least equal to market values at the time of acquisition. The Fifth Amendment to the Constitution provides that private property shall not be taken for public use without just compensation. Prices of property taken through the exercise of the power of eminent domain are set by the courts.

Prices paid by the government undoubtedly were fair and just at the time of purchase. Furthermore, many, if not most, of the sellers invested the money received in other property and got reestablished on other farms or in other businesses, thus protecting themselves from the ensuing inflation in land prices. On the basis of price, therefore, there is little reason why former owners should be allowed to purchase the land at the original price after a general rise in price of all property. This merely encourages speculation. Most of the former owners will not wish to return to the area to live and therefore would repurchase at the preferred price merely to sell at market price. This will give no advantage to the persons who eventually buy to establish farms, homes, and community improvements in the area, and it will not mean fair returns to the government. It will merely mean a public handout to

[4] L. A. Salter, Jr., *Experience of Land Sellers at Badger Ordnance Works at Merrimac, Wisconsin* (Unpublished statement.) Also, *Classification of Initially Displaced Families in the Area Acquired for the Building of T. N. T. Plant in Erie County, Ohio.* Unpublished data in files of Farm Security Administration.

[5] M. M. Regan, A. R. Johnson, and Fred A. Clarenbach. *The Farm Real Estate Situation, 1943-44*, U. S. Dept. Agr., Circular No. 721, Jan. 1945. Also, *Current Developments in the Farm Real Estate Market*, processed release, Bureau of Agricultural Economics, March 1945.

the fortunate few whose former properties are being returned to private ownership.

We might also inquire if all former owners will receive the same treatment under the present law. Preferential treatment is accorded only to those individuals who formerly owned property in sites that are to be returned to private ownership. However, those whose former land has been severely damaged and is no longer suited to its former use will not be able to reestablish it as operating units. This latter group will have priority rights in the purchase of substitute units only if former owners or former tenants of land still suitable for its previous use do not wish to exercise their priority rights. Those who owned land in the projects that will remain as airfields, ordnance plants, and training centers, or transferred to other federal agencies or state and local governments, will have no opportunity of obtaining preferential treatment. Effective priority and preferential prices, therefore, can be extended only to a portion of the thousands of former owners who sold their land to the government.

Platting the Land into Economic Units not Possible

Priority to former owners precludes the possibility of dividing the surplus land areas into economic family-sized units. There will be no possibility of arranging the size and shape of the farms so as to enlarge fields and to facilitate conservation farming. With the price preference feature associated with time priority, virtually the entire area of land not damaged too severely undoubtedly will revert to its former ownership pattern. Subsequent buyers, of course, can assemble various tracts into better sized operating and ownership units, but that will be much more difficult than would be the case if the land were laid out on a rational pattern at the time of sale. It would be advantageous to the government and to future operators if the land could be sold in accordance with the adaptability of the land, taking into consideration new construction, such as drainage ditches and roads, and natural physical features.

Under the present Act, surplus land in the mechanized farm areas tending toward larger farm units is likely to remain void of farm buildings and community life. Owners of farms outside the surplus areas even a considerable distance away will be able to operate this land by bringing their tractors and other rubber-tired equipment to the site for plowing, planting, and harvesting. By operating thus, community life will not be restored in the area and assessed values will not be reestablished. This type of development would not be undesirable if there were a proper proportion of complete farm units and field tracts reestablished. However, there will be no way of influencing the direction of development since the resulting ownership pattern will depend upon the action of many individuals in the adjustment of their present farm enterprises with that of the purchased land. It may mean that a good tract of land well suited to the establishment of a new farm unit will be operated as a field in conjunction with a distant farm, while at the same time someone is attempting to develop an inadequate-sized piece of land into a full-time farm.

The situation will be equally serious in many of the military sites with land of low productivity. Through the process of subdivision and inheritance much of the land in some areas had been reduced to small ownership tracts before government acquisition, too small to be

used as economic operating units with present means of production. Reorganization of these areas would offer a chance to establish ownership and operating units adapted to the kind and quality of land. As it is, these small acreages will be restored as they were and held in comparative idleness unless eventually consolidated by individuals. The government spent much money in clearing titles to these many small individual tracts. It is unfortunate, therefore, that future owners and society are not to be enabled to move forward to a more rational and effective pattern of property ownership rather than back to a pattern that has become obsolete and ill adapted to the potentialities of the land.

Few if any Farms for Veterans

Military and naval lands acquired during World War II, and suitable for agricultural use in private ownership, could provide land for upwards of 10,000 economic family-sized farms and ranches depending upon the amount becoming surplus. They would provide excellent opportunities for a limited number of returning veterans wanting to farm. It would offer many opportunities to veterans in the communities having surplus lands for sale.

Veterans who may be able to buy some of this surplus land will do so because of their status as former owners or heirs to a former owner and not because of their status as veterans. The Surplus Property Act merely extends a gesture of good will toward the veteran in the acquisition of surplus farm real estate. A veteran is accorded priority only after the former owner and former tenant have signified in writing that they do not intend to purchase the unit. Even after they have so specified, another former owner in the area, whose previous tract is not available, may wish to buy a substitute unit if one is available. With such an array of priorities, coupled with price concessions, it is likely that little desirable land will be available for veterans. Individuals are not prone to forego an opportunity to gather in a windfall when it can be done with such little effort. If many former owners and tenants are unaware of the extent of the financial benefits and absence of restrictions on resale, it is certain that they will be made aware of it by the time the surplus land is made available for sale. The permanency of economic adjustment made by the former owners and tenants is no criteria of the extent to which they will be applicants for the repurchase of this land.

In summary, it can be said that the intentions with respect to surplus rural real estate written into the Surplus Property Act of 1944 are good, but that the methods by which they are to be carried out are such as to make the final results undesirable. Time priorities for former owners may be justified, but price concessions accorded favored groups and adherence to original units will encourage speculation and prohibit the establishment of economic family-sized units. The two latter features of the Act will severely limit the possibilities of providing farms for veterans and others most in need of them.

Suggestions for Amendment

It would be in the public interest and more fair to veterans and others who wish to enter farming as an occupation if the Surplus Property Act were amended on four points: (1) Provision should be made for selling suitable surplus land in family-sized economic units, the shape and size of the farm to be determined by giving consideration to former boundaries, old and new public roads and utilities, adaptability of the land, and

type of farming. (2) Price concessions to former owners and former tenants should be removed and one selling price established, regardless of the type of buyer. In event of two or more applications of equal rank, selection of buyer can be made by drawing lots. (3) Former owners and former tenants could be given time priority as now provided, but this priority should be applicable only to one of the replatted units if the former unit is no longer recognizable. (4) Any individual, partnership, group, or corporation should be limited to the purchase of one unit only, regardless of the amount of land formerly owned in the area.

If these four principles were embodied in the Act the speculative inducement would be eliminated. Only former owners who have an operating interest in the land would return. The price would be in their favor if any sentimental values remained, since appraised prices would reflect only commercial and market values. If the speculative inducement were removed, there would be more units available to veterans and others who wish to become operators and owners of going farm concerns. Limitation of one unit per buyer would be in accord with the Nation's long accepted policy of family-sized and family-operated farms. Disposing of surplus areas in economic family-sized units would aid in the reestablishment of the community and it would provide the operators with a type of unit on which modern methods of farming could be employed and on which the operator and his family could, under normal conditions, make a comfortable living.

These four points represent the minimum necessary amendments that need to be enacted if the sale of surplus rural real estate is to be done well. However, the Act would still fall short in providing for an early establishment of farm and community life in the surplus areas to be sold.

A More Desirable Approach

Reestablishment of farm buildings and community life can be facilitated if the land is sold on the basis of going farms. With such a plan the selling price could be that which is arrived at by considering current market value, character of the property, and the estimated long-term income producing capacity of the farm as a going concern. The price charged for the land would be the appraised price of the unit as a going concern less an allowance for the cost of erecting the necessary farm buildings and other necessary minimum farm improvements. Since the Farm Credit Administration has been designated as the disposal agency for agricultural lands, it would be a simple matter to arrange loans for the construction of farm buildings and improvements. Other credit agencies, such as the Farm Security Administration and commercial banks, could also finance prospective buyers. Each purchaser could then arrange for his own construction work and erect buildings suited to his needs. To protect the interest of the government and to insure that improvements would be made, the contract could provide that the improvements be made within a specified length of time and that title be withheld until the specified improvements had been made.[6]

[6] In many instances, it might be desirable to subdivide the surplus lands into fields and pastures to be sold to nearby farmers in need of additional acreage. If the acreage of land to be disposed of is small in relation to the surrounding community it might be well not to establish any new farms or ranches but to sell all of it to nearby operators. One cannot set one national acreage figure as the limit below which one would not establish new farms. It would depend upon local economic conditions. As a rule, it might not be feasible on the larger surplus sites to provide for a general program that would give preference to helping nearby farmers enlarge their farm units. It would be a

(Footnote 6 continued on page 337)

In considering such a program one must recognize that the market price for an improved farm is usually less than the cost of raw land with the cost of necessary improvements added. Hence, the price the government would obtain for the land sometimes would be less than if sales were on the basis of market value for bare land giving no consideration to necessary improvements. Such a program recognizes the desirability of having the farms and communities reestablished at an early date and of formulating a program which would make this possible. It is not one of giving price concessions without requiring services in return. The reduced revenue resulting from such a program should be considered a cost that is to be borne by the public as a war cost. The buyers who are to operate the farms for a livelihood should not be expected to build up the farms and community at the expense of their level of living, as so often happens when individuals go out to establish new farms. By the method proposed, the benefits would accrue to the community and would not be a windfall for certain individuals, as is likely to happen under the present provisions of the Surplus Property Act.

It takes both a farmer and a farm to make the farm a business enterprise. We have set up the farms, but need to think the problem through so as to get the right people on them and to minimize speculation.

Sale of farms from surplus military land should be made to those who expect to operate them for a living. Since priorities cannot be extended fairly, it would be well to abolish all priorities and to treat all qualified buyers on even terms. It would be well to set up a special committee made up of local farmers to pass upon the eligibility of prospective buyers for all major sites where 25 or more new farms will be established. Any smaller site could be handled by the County Farm Security Committee that will be passing on the eligibility of borrowers under the G. I. Act. The prospective buyer should meet certain requirements as to experience and training, financial ability and property holdings, and personal characteristics.

Experience and training in agriculture should be adequate to demonstrate that the individual has sufficient knowledge of agriculture to operate a farm successfully. Anyone who already owns a farm or owns other property adequate for a full-time occupation should not be eligible. Such persons can purchase farms elsewhere if they wish to farm. Other financial considerations should merely be those which would qualify the prospective buyer for a loan through the Farm Security Administration, Farm Credit Administration, or other credit agencies willing to finance the purchase and establishment of a farm on a sound long-term credit plan. The individual should be able to provide personal references to demonstrate that he is physically and mentally able to assume the responsibilities of farm ownership. Only those fully capable of operating a farm should be eligible. It is a disservice to the individual and to the community to place the unqualified on farms and expect them to make a success. A local committee, as suggested here, could pass upon the eligibility of all individuals who submit applications within a stated period of time. Those who are eligible could then designate the units in which

(Footnote 6 continued from page 336)

most difficult program to administer because it would be necessary to place wide discretionary powers in the hands of each individual project manager. Establishing desirable economic units on the land to be disposed of is a worthy enough goal in itself. Some special consideration of course needs to be given to severance cases where the farmer was forced to sell most of his land and is still occupying the farm buildings and reduced acreage.

they are interested, and selection could be made by lot where there are two or more applicants for the same unit.

The manner in which the Nation disposes of surplus military lands in rural areas can be either a landmark in national land policy and a future monument to sound government action or it can be merely a mad scramble to see who gets the spoils. It is hoped that a program will evolve which will redound to the benefit of the entire community and to the individuals who are to be the ultimate farm operators, rather than to a select few who may be in a position to benefit from a purely financial transaction.

Postwar Adjustments in Cotton Production in the Southeastern United States

By PHILLIP E. JONES*

THE *cotton problem* is continuing to attract more attention in Congress, in administrative circles, and in technical and popular literature than the problem presented by any other farm commodity. Heretofore, discussion has centered in the relationship between the South's primary dependence on this crop as a source of farm income and the social and economic ills of the region. Cotton has been described by the Agricultural Adjustment Administration as " . . . this ruthless killer [that] has built a sprawling and densely populated kingdom where poverty and low income prevail."[1] More recently emphasis has been placed upon the significance to the American growers of present and future increased output of synthetic fibers and foreign cotton.

Whereas cotton grown in the United States comprised about two-thirds of the total world production at the turn of the twentieth century, it now has dwindled to slightly more than 40 percent. The United States began losing her hold on world cotton production during and shortly after World War I when boll-weevil infestation became widespread in the South. Not only did the price-support and acreage-reduction programs, beginning in 1929 with the Federal Farm Board, cause decreases in American cotton production, but they also accelerated the already rapid rate of increase in foreign production.

Nationalistic import regulations established about the same time by several of the principal cotton-importing countries were instrumental in displacing American cotton in some markets. Although wartime conditions have tended to check the decline of domestic relative to foreign production, there has been no reversal of the trend.

The competition for most of cotton's many uses from both natural and synthetic fibers increased greatly during the 25 years preceding World War II. World consumption of all the principal fibers increased about a third during this period. Cotton, which shared in this increase, failed to keep pace with other fibers; rayon made the most spectacular gain, as indicated by a production rise of 1,000 percent from 1910-14 to 1939. The development of nationalistic policies in certain countries, particularly in Germany, Italy and Japan, has contributed to the expansion of synthetic fiber production; but most important in accounting for the tremendous increase in rayon production have been technological dedelopments and the accompanying quality improvements and price reductions.

Several combined factors create a dreary postwar outlook for the number-one crop of the South. Existing domestic price supports for American cotton for immediately after the war threaten to stifle exports, to encourage renewal of the prewar trend toward increased production in foreign areas, and to encourage mills both at home and abroad to switch to rayon. Also in prospect is a record-breaking foreign carry-over (widespread among the various exporting nations) at prices below government-held cotton in the United States. In

* Bureau of Agricultural Economics, U. S. Department of Agriculture. This paper is a personal contribution and is not an official statement of the Department of Agriculture.

[1] USDA, AAA, *Cotton, Land and People*, SRM 428, Washington, D. C., 1940, p. 1.

some of the war-torn countries the lack of purchasing power and military damage to textile mills will retard the upturn in cotton consumption. Here at home there is much likelihood of a substantial decline in domestic consumption of fibers from decreased industrial activity and curtailment of large military requirements.

Reduced prices or curtailed production, or possibly both, appear inevitable. Such measures as government loans, two-price plans, and export subsidies will at best be only temporary means of maintaining high prices and a large volume of production. In the long run, unit costs of production must be lowered sufficiently to permit cotton to meet the price competition of synthetics and foreign cotton, and only the quantity of cotton that a competitive price will call forth should be produced. This means that those high-cost producers whose farms would be submarginal for growing this crop at such a price will be compelled to shift their land, labor, and capital to some other agricultural enterprise or seek employment outside agriculture. Many growers in the low-cost group may have some poor land now devoted to cotton production that would be submarginal at the competitive price and that should be diverted to other uses. The extent to which cotton growers will be able to meet competition of foreign growths and synthetic fibers by producing high-quality cotton at low costs will vary among different sections of the Cotton Belt. Furthermore, the possibilities of the high-cost producers shifting all or part of their resources to some other agricultural commodity or finding nonagricultural employment will exhibit extreme variation.

The difficulties associated with producing high-quality cotton at low cost will be most pronounced in the rougher, lower-yielding sections of the Cotton Belt, such as are found in much of the southeastern United States. The four southeastern states of South Carolina, Georgia, Alabama, and Mississippi typify a region in which much of the topography is not conducive to mechanization, in which cotton acreage per-farm family is small and per-acre cotton yields are low, and wherein farmers now rely heavily upon cotton for income. For convenience, these four states will be referred to below as "the Southeast."[2]

For much of the Southeast there has been heavy dependence upon cotton for income for more than a century. Despite the spread of cotton production to more western areas beginning in the latter part of the nineteenth century, despite the boll-weevil infestation that became widespread during and shortly after World War I, and despite the great reduction in cotton acreage brought about during the 1930's by the AAA control program, many farmers in the Southeast continue to rely heavily or almost entirely upon cotton for cash income. About half the cash farm income in the Southeast in the prewar years, 1935-39, was derived from cotton, 18 percent from livestock and livestock products, 6 percent from tobacco, 3 percent from peanuts, 12 percent from other crops, and the remaining 10 percent from government payments (Table I).

Some diminution in the southeastern farmer's reliance upon cotton has occurred during World War II. In 1944,

[2] Virginia, North Carolina, Florida, Kentucky and Tennessee also are often spoken of as being southeastern states. Virginia, Florida and Kentucky are relatively unimportant as cotton-producing states, however, and cotton is the major crop only in certain sections of North Carolina and Tennessee. Though some farmers in Virginia, North Carolina, Florida, Kentucky and Tennessee may be as dependent upon cotton for income as the majority of those in South Carolina, Georgia, Alabama, and Mississippi, state-wide reliance upon this crop is much greater in the latter four states.

45 percent and in 1943 only 43 percent of the region's income was derived from cotton. Labor shortages, unfavorable weather conditions at planting times, and the high wartime prices for peanuts, a competing crop in most areas of the Southeast, have been principal factors contributing to reduced cotton acreages. Increased demands for soybeans, food crops, and livestock products, while contributory to reductions in acreage, were of much less importance than was the demand for peanuts. The artificially high support prices for cotton that have been maintained during the war have discouraged further decreases. The maintenance of cotton acreage during wartime has been justified by the spurious reasoning that cotton should be considered a vital war crop because certain war-essential products, principally vegetable oil and protein feed, are derived from the seed. Little or no consideration was given to the correlative contribution to an already burdensome supply of all but the longer staple lengths of lint cotton or to the fact that on most southeastern farms peanuts or soybeans are a more economical source of vegetable oils and protein supplements.

In examining the resources of the Southeast, it is found that the red and yellow Podzolic soils of the region are on the whole naturally less fertile and more erosive than the Prairie and Chernozem soils of the Midwest, or the gray-brown Podzolic soils of the Lake states. Complete fertilizer and lime must be added to many of these inherently infertile and acid soils before good yields can be obtained.

In 1934 the National Resources Planning Board classified the land area of the United States according to five grades of natural productivity for crops. Grade 1 land was that deemed *excellent* for the staple crops climatically adapted to the region in which it lies; Grade 2, *good;* Grade 3, *fair;* Grade 4, *poor;* and Grade 5, *essentially incapable of tillage.* Less than 1 percent of the land area of the Southeast was considered excellent and almost a quarter essentially incapable of tillage. In the four Corn Belt states of Iowa, Illinois, Indiana, and Ohio, more than two-fifths of the land was reported as excellent, while only 3 percent was deemed essentially incapable of tillage (Table II).

In addition to being naturally infertile and acid, many of the soils found in the Southeast are highly erosive, even on moderate slopes. As a result of the erosive nature of the soils, the heavy

TABLE I. CASH FARM INCOME AND ITS DISTRIBUTION AMONG VARIOUS SOURCES, SOUTHEAST REGION, SELECTED YEARS*

PERIOD	Total Income (including Government payments)	Proportion From Various Sources						
		Government Payments	Livestock and Livestock Products	Crops				
				All	Cotton	Tobacco	Peanuts	Other
	1,000 *dol.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*
Average:								
1935–39	569,814	10	18	72	51	6	3	12
1941	667,245	11	20	69	48	4	4	13
1942	953,072	7	22	71	47	6	6	12
1943	1,134,304	4	25	71	43	5	9	14
1944	1,283,963	5	22	73	45	7	6	15

*Source: BAE Farm Income Reports

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*Source: BAE Farm Income Reports

annual rainfall and open winters, the sloping-to-hilly topography, and the adherence to row-crop farming without adequate soil-conservation practices, erosion has reached serious proportions. Vast acreages should be retired from row crops, at least temporarily, pending restoration; and still greater acreages should be row-cropped only if those soil-conserving and soil-building practices that will check erosion and raise productivity are adopted. According to a reconnaissance survey made by the Soil Conservation Service in 1934, 82.9 percent of the total land area of Alabama had been damaged by accelerated erosion: on 25 percent of the land, over three-fourths of the topsoil and some subsoil had been lost, and on an additional 52.2 percent of the land, from one-fourth to three-fourths of the topsoil had washed or worn away. Somewhat smaller proportions of Georgia, Mississippi, and South Carolina had deteriorated in much the same way (Table III). Although some progress has been made toward erosion control since this survey was conducted, there is little doubt that the gains made have been slight compared with the job yet to be done.

While original soil conditions, climate, and topography have contributed to the present eroded, depleted, and unproductive state of the soils in the Southeast, the most important reason for the present condition of the region's resources is the neglect and misuse associated with the cotton economy. The land has been planted to clean-cultivated, soil-depleting crops year after year and, until recently, little attempt has been made to follow practices designed to check erosion and maintain the productive capacity of the soil. Since colonial times the agricultural system in the Southeast has been principally a cash-crop economy centering around cotton—in some areas, around cotton and tobacco, and more recently, around cotton and peanuts. Today a large proportion of the farmers in the region are sharecroppers and other tenants whose tenure is so insecure that they are not concerned with the long-time features of soil conservation.

Aside from having land that is severely eroded and in the low productivity classes, many southeastern farmers have only a few acres per person. Census figures indicate that the per-capita acreage of land available for crops in the Southeast was only a little more than 7.5 acres in 1939. This was only three-fourths of that for the 13 southern states, about half that for the nation as a

TABLE II. PROPORTION OF LAND IN PRODUCTIVITY CLASSES IN SELECTED STATES

STATE OR REGION	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
	Percent	*Percent*	*Percent*	*Percent*	*Percent*
Alabama	.....	9	29	33	29
Georgia	.....	5	41	26	28
Mississippi	3	18	29	36	14
South Carolina	.....	2	36	36	26
Southeast	1	9	34	32	24
Illinois	42	19	17	19	3
Indiana	23	28	34	10	5
Iowa	73	19	4	3	1
Ohio	16	24	40	15	5
Corn Belt	42	22	21	12	3

NRPB report, *National Planning and Public Works in Relation to Natural Resources*, Dec. 1, 1934, p. 127.

whole and only a third that for the Corn Belt. Farmers in Iowa had five times as many crop acres per person that year as in South Carolina.

The meager acreage of land available to most of the region's farmers is reflected in the large proportion of farm families producing small quantities of cotton. A little more than a third of the region's cotton growers produced only two bales or less of cotton in 1939, an additional fourth made only from two to four bales, and but a fourth made more than six bales (Table IV). Per-acre yields ranged from 119 pounds of lint for the producers in the two-bale-or-less group to 386 pounds for the ones making 10 bales or more, indicating that the farmers with small cotton acreages also had the poorest land, or followed the least efficient management practices, or both. The small scale of operations and low per-acre yields for farmers in the lower-bale categories resulted in extremely low farm incomes. The value of products sold, traded, or used at home by farm households was only about $350 for those farmers who made two bales or less, and but $490 for those producing from two to four bales. It should be pointed out that these figures do not apply to farms as operational units, but rather to farms as defined by the census. In other words, they represent farm families rather than farms. It should be emphasized that, although extremely low, these figures are ones of *gross* income from which no cash operating expenses have been deducted and that they also include the value of products grown on the farm and consumed in the home. Also, for croppers and tenants the figures include the value of the part of the cotton crop that went to the landlord for rent. On the other hand, these figures do not constitute the total annual income of the family because they do not include the value of off-farm work performed by the family members.

The widely publicized words, "ill-fed, ill-housed and ill-clad," are more applicable to the farmers in the southeastern United States than to those in any other area of comparable size. Far too few farm families in the Southeast produce enough milk, eggs, meat, or vegetables to provide themselves with adequate diets. Many of them do not have a cow, hog, chickens, or vegetable garden. According to the 1940 Census of Agri-

TABLE III. EXTENT OF EROSION IN THE SOUTHEASTERN UNITED STATES, 1934*

EROSION CLASSES	Proportion of Total Land Area			
	Ala.	Ga.	Miss.	S. C.
	Pct.	*Pct.*	*Pct.*	*Pct.*
Damaged by erosion[1]	82.9	61.3	65.5	34.3
Affected by sheet erosion:	77.2	58.9	63.7	30.6
One-fourth to three-fourths topsoil lost	52.2	42.3	53.4	18.6
Over three-fourths topsoil and some subsoil lost	25.0	16.6	10.2	12.0
Affected by gullying:	69.5	53.5	47.1	28.9
Occasional gullies	60.5	46.9	32.4	22.2
Severe gullying	9.0	6.0	13.2	3.1
Destroyed by gullies	[2]	0.6	1.5	3.6
Essentially destroyed for tillage	2.8	5.1	5.7	1.7

[1] Land on which less than 25 percent of the topsoil had been lost was not considered as "damaged by erosion."
[2] Less than 0.1 of 1 percent.
* Adapted from "Soil Erosion, a Critical Problem in American Agriculture," Part V: *Supplementary Report of the Land Planning Committee*, NRPB, 1935, pp. 55-95.

culture, about two-thirds of the farm families in the Southeast had gross incomes of less than $600, including the value of products grown on the farm and used at home. With approximately a sixth of the nation's farm population, the Southeast usually receives less than 6 percent of the United States gross farm income. Per-capita farm incomes in these four states and in Tennessee and West Virginia are the lowest in the nation.

Adherence to a one-cash-crop cotton economy often is given as *the* cause of all economic ills of the Southeast. Without doubt this is an oversimplification. That there are other important reasons for the low level of living, the high percentage of tenancy, and the extensive erosion in the region goes without saying. But there is ample reason to believe that the historical dependence upon cotton for such a large proportion of the farm income, with the resultant adherence to a row-crop type of farming, has been a chief factor contributing to this situation. Even so, most southeastern farmers continue to rely mainly upon cotton. They do so because there is not now any major crop, except tobacco, that will produce per-acre incomes comparable even to the low ones derived from cotton. A meager cropland base, resulting from the dense population of the region, makes it necessary to follow a type of farming that gives a rather high income per acre. In recent years the relatively higher per-acre returns from cotton have been due in part to governmental maintenance of high prices for this crop.

Since total cotton consumption and the farm price for cotton and other agricultural commodities are largely dependent upon the volume of industrial production and factory payrolls, the absolute levels of incomes for southeastern farmers in the postwar period will be determined to a considerable extent by the degree to which we are able to maintain employment and consumer purchasing power. Also, general economic conditions in importing countries will condition the rate of fiber consumption and, therefore, will affect the quantity of American and other cotton imported. World trade policies, including the tariff schedules, also will have a direct bearing upon the size of our cotton exports. But existing and potential competition from synthetics at home and both synthetics and foreign cotton abroad will make impossible

TABLE IV. PERCENT DISTRIBUTION OF FARMS REPORTING COTTON HARVESTED, ACREAGE, PRODUCTION, AND YIELD PER ACRE; AND VALUE OF TOTAL FARM PRODUCTION PER FARM; BY NUMBER OF BALES, SOUTHEASTERN UNITED STATES, 1939*

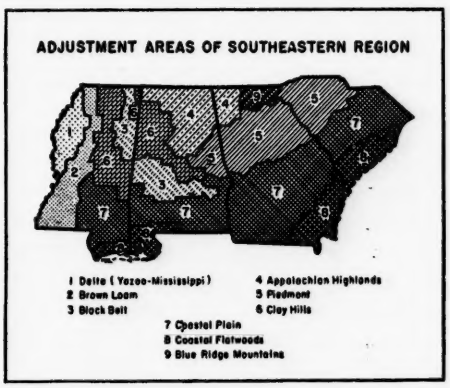
NUMBER OF BALES	No. Farms Reporting Cotton Harvested		Acres of Cotton Harvested		Bales of Cotton Produced		Yield Per Acre	Value All Products per Farm[1]
	Percent	Cumulative percent	Percent	Cumulative percent	Per cent	Cumulative percent	Lb. lint	
								Dol.
2 or less	34	.....	19	.....	8	.....	119	349
2⅛— 4	25	59	19	38	15	23	208	490
4⅛— 6	15	74	14	52	14	37	267	608
6⅛— 8	9	83	11	63	12	49	311	727
8⅛—10	6	89	8	71	10	59	349	847
Over 10	11	100	29	100	41	100	386	1,715

[1] Average value of farm products sold, traded, or used by households.
* Adapted from *Special Cotton Report*, U. S. Census of Agriculture, 1940. Southeastern United States here includes Alabama, Georgia, Mississippi and South Carolina.

a large volume of consumption of high-priced cotton even if prosperous conditions do prevail. In order to avoid losing a large portion of the market now held by cotton, producers must be willing to accept much lower prices than those now prevailing. Even then, it may be impossible to prevent rayon and other synthetics from taking over some of the outlets for cotton because of inherent superiority of these newer fibers in many uses, the making of tire cord, for example. Furthermore, many farmers may not be able to lower unit costs enough to stay in production at the lower price. Thus, for the high-cost areas of the Southeast, a reduced production as well as a lower price appears in prospect.

While for a short time government programs may succeed in maintaining either or both prices and production, unit costs eventually must be lowered sufficiently to enable American cotton growers to meet the price competition of synthetics and foreign growths. Some farmers may find it difficult to reduce unit costs to this extent—either because of low per-acre yields or because of inability to lower costs of production through adoption of machine methods. These farmers will be faced with the alternatives of growing cotton at a loss, shifting their land and labor to the production of some other agricultural commodity, or seeking employment outside of agriculture.

The possibilities of producing cotton at low cost or of a farmer's transferring all or part of his resources to the production of other farm commodities will vary considerably from farm to farm, depending upon the individual's personal characteristics and upon physical interfarm differences. Similarities such as in climate, topography, size of farm, degree of mechanization, extent of erosion, and tenure arrangements make it possible to divide the part of the Southeast where cotton is important into seven major adjustment areas for detailed analysis of the possibilities of producing cotton at low cost or shifting to some other enterprise. These are: (1) Yazoo-Mississippi Delta, (2) Brown Loam, (3) Black Belt or Black Prairie, (4) Appalachian Highlands, (5) Piedmont, (6) Clay Hills, and (7) Coastal Plain.[3] (See Fig. 1). The ensuing discussion of



the possibilities of farmers in each of these seven areas producing low-cost cotton or shifting all or part of their resources to some other enterprise applies almost equally well to portions of these areas found in states other than the four under consideration here. For example, the following statements regarding the Mississippi Delta apply in large part to the cotton-growing sections of the Delta in Louisiana, Arkansas, Tennessee, and Missouri, as well as to the eleven Mississippi counties included in the Yazoo-Mississippi Delta.

The Yazoo-Mississippi Delta area has a distinct competitive advantage over all the other areas of the region and the entire South for the production of cotton. As a result of inherently fertile soils,

[3] In the other two areas of the Southeast, the Coastal Flatwoods and Blue Ridge Mountains, cotton is relatively unimportant.

yields are now approaching a bale per acre and there are possibilities for still further increases. Also, cotton produced in the Delta is of better quality and much longer staple than that grown elsewhere. Large farms and level topography will be conducive to more rapid and more widespread mechanization in this area than elsewhere in the Southeast; therefore, the prospects for decreasing unit costs by this means are best in this area. The mechanical cotton picker and the flame cultivator are still in a "semi-experimental" stage, but the limited experience with such equipment thus far has been very encouraging. It appears that the only barrier to successful mechanization of Delta plantations will be a stagnant national economy with much unemployment and, consequently, a large supply of cheap farm labor.

Nowhere is the quality of cotton grown equal to that produced in the Delta. Only in the irrigated sections of Arizona, New Mexico, and California and in the rather small Sand Mountain portion of the Appalachian Highlands do yields exceed or approach those obtained in the Delta. High yields are achieved on Sand Mountain by heavy applications of fertilizer, whereas little or no commercial fertilizer is needed for high yields in the Delta. Also, small irregular fields and owner-operated farms of only 25 to 30 acres of cropland on Sand Mountain will hinder adoption of machine methods and otherwise prevent reduction of unit costs. Fertilizer expenses and irrigation costs in the irrigated areas make unit production costs higher than in the Delta. Only in the High Plains of Texas can mechanization be as readily adopted as in the Delta. And here low per-acre yields and low-quality cotton are usually obtained.

The two next-highest producing areas in the Southeast are the Appalachian Highlands and the Brown Loam. The quality of cotton grown in these areas is not so good as that grown in the Delta, however, and fertilizer applications are heavier. Both the Brown Loam and the valley sections of the Appalachian Highlands originally were old plantation areas, and many large farms still are to be found in these areas. On them, mechanization can proceed rapidly and production costs can be lowered accordingly. Although the comparative advantage of these areas for cotton production—both within the Southeast and the Cotton Belt as a whole—is less than that for the Delta, producers in these areas will be able to grow cotton more efficiently than those in other parts of the region or in the South. Highly erosive soils in the Brown Loam, however, will make adoption of conservation practices more necessary than in the Delta or the Appalachian Highlands. Growers in the Appalachian Highlands also have a slight advantage over those of the Brown Loam for two other reasons: (1) yields are slightly higher, and (2) climatic conditions in the Appalachian Highlands make boll-weevil control less of a problem.

In the four remaining areas of the Southeast, yields are much lower and the prospects for improving them are not so good as in the Delta, the Brown Loam, and the Appalachian Highlands. In the Black Belt and Coastal Plain, where yields are lowest, boll-weevil control is especially difficult, cotton quality particularly low, and staple length very short. Although topography will not be a serious barrier to mechanized cotton production in either area, the numerical predominance of small farms in the Coastal Plain probably will hinder rapid adoption of large-scale methods. In the Black Belt, continued production of cotton or other row crops is advisable

only on the terrace and bottom land because of extremely erosive soils. Many cotton growers in both the Black Belt and Coastal Plain will be at a decided disadvantage as compared with most of those in the Delta, Appalachian Highlands, Brown Loam, and some of the cotton-producing areas outside the Southeast. Of course, those on fairly large farms with better-than-average soils may be able to stay in production.

In the two remaining areas, the Piedmont and the Clay Hills, yields are slightly higher than in the Black Belt or Coastal Plain, but they are much lower than those in the Delta, the Applachian Highlands, or the Brown Loam. Also, cotton quality is somewhat higher, staple lengths are slightly greater, and boll-weevil damage is less in the Piedmont and Clay Hills than in the Coastal-Plain or Black Belt. But small farms, patchy fields, and rough topography in much of the Piedmont and Clay Hills make mechanization practically impossible. Soil-conservation needs and the poor competitive position of these areas relative to others will require that cotton acreage be reduced.

Just as there is considerable dissimilarity among the seven areas in the prospects for producing cotton at low unit costs, physical differences, particularly in soils, make diverse the prospects for supplementing or replacing cotton with some other agricultural commodity.

Soybeans, oats, alfalfa and certain truck crops offer likely possibilities for the land in the Delta *not* planted to cotton. Soils well adapted to pasture production make beef and dairy cattle feasible in the Brown Loam and Black Belt. Part of the Brown Loam also is well adapted to sweet potato and truck-crop production. High yields of feed crops make livestock raising economical in the Appalachian Highlands. Also, in some parts of this area, peanuts, fruits and vegetables offer distinct possibilities. Harvested peanuts, tobacco, sweet potatoes, and hogs, and to a lesser extent beef and dairy cattle, are the alternatives to cotton in the Coastal Plain. Alternative opportunities are least promising in the Piedmont and Clay Hills, especially in the latter area, because on most farms the soils are not well suited either to the raising of other cash crops or to feed and pasture production for livestock. Even in these areas, however, some farmers could combine or replace cotton with beef or dairy cattle, poultry, or truck crops.

Physical factors are not the only ones that will hinder a farmer shifting wholly or partly out of cotton growing. Comparable returns from the adapted crops are of paramount importance; these, in turn, are conditioned largely by relative prices, yields, and production costs. Acreage restrictions on tobacco may prevent many farmers growing more of this crop although some of the region's soils are well adapted to its production and the returns are high. In addition, the small acreages of land available to many farmers make it impossible to grow enough feed and pasture to follow a livestock system of farming. Absence of adequate market outlets for some commodities may also be a factor. Personal characteristics of the individual farmer, his inertia, his unwillingness to change, and his lack of special skills that might be required, are important considerations in any program of farm adjustments.

In at least four areas of the Southeast, the Black Belt, the Coastal Plain, the Piedmont, and the Clay Hills—cotton acreage should be reduced. Low yields, poor-quality and short-staple cotton, high boll-weevil damage, inability to lower costs through mechanization, and

the need for soil-conservation practices on a scale impossible under a cotton culture are the principal factors contributing to the advisability of such acreage reductions. For many years in the Black Belt there has been a trend toward cattle-raising and away from cotton. Continuation and acceleration of such a change should not be too difficult, for farms are large and most of the soils are excellent for pasture establishment. The consolidation of small units into the larger ones that would be necessary for economical cattle-raising could be achieved quite readily because many of the farmers on small farms in the area are tenants or croppers whose attachments to the land are not very strong. Market outlets for beef and for dairy products are well established in the area, and the chances are good for continued high demands for such commodities.

The shift from cotton to some other agricultural commodity or commodities can be achieved much less readily in the Coastal Plain, the Piedmont, and the Clay Hills, particularly in the latter two areas. From purely a physical standpoint, the alternatives to cotton are good in the Coastal Plain, but the likelihood of acreage restrictions on tobacco and greatly contracted demands for harvested peanuts reduce the possibilities considerably. In all three of these areas a small acreage of cropland per farm family requires that an intensive cash crop—such as that exemplified by cotton—furnish the bulk of the farm income. Inasmuch as no cash crop other than cotton offers likely possibilities in the Piedmont and the Clay Hills, and since for the Coastal Plain the postwar prospects for harvested peanuts are not very bright, and since acreage restrictions probably will be applied to tobacco, cotton (even at low prices and with low yields) may be the only crop that will support the areas' large populations. While there may be good reasons for greatly reducing or completely eliminating cotton in the Coastal Plain, the Piedmont, and the Clay Hills, lack of another crop that will support the people now on the farms in these areas will retard the abandonment of cotton.

There are many people who would solve the cotton problem in the Southeast by shifting a large part of the region into general farming or livestock production. For farmers with enough land, especially those in areas like the Brown Loam, the Black Belt, and the Appalachian Highlands, the transition from cotton to livestock could be accomplished fairly readily if cotton prices were low relative to those for livestock and livestock products. The story is quite different for farmers with small acreages of unproductive, highly erosive land that is not well adapted to pasture establishment and feed-crop production. Many of these small-scale operators *must* have more land before they can abandon or decrease cotton for livestock raising. With present acreages incomes cannot be maintained even at the present low levels unless cotton (or some other cash crop that offers equally high per-acre returns) is kept as an integral part of the farm plan. Government subsidies for many farmers would need to be large and continue indefinitely in order to maintain incomes at present levels without cotton or some other equally remunerative cash crop. The only practicable solution to the "cotton problem" of many small farms in the region is consolidation of units into larger and more economical-sized farms. This not only will permit more extensive types of farming and decrease the need for high per-acre returns, but also will encourage the adoption of machine

methods on farms where factors other than size will permit. Consolidation and extensification will necessitate a reduction in the region's farm population.

Several means might be used to increase the size of small operating units. In all areas of the Southeast there are lands that now remain practically unused. For the most part such areas are in cut-over timber that yields little or no income. Soil surveys indicate that some of these lands are suitable for varying degrees of cultivation; therefore, bringing them into cultivation would increase the available cropland for a few farmers now operating uneconomic acreages. However, except for the Delta there is not enough cut-over land of cultivable quality to provide economic units for large numbers of farmers. Real accomplishment along this line can be achieved only by consolidation of the many existent small units into fewer larger ones. This does not necessarily imply establishment of individually-owned and independently-operated units for all families, but would require that tenant-operated units be greatly enlarged. The land now operated by two or more tenants might be combined into one tract, still retaining tenant operation. In fact, consolidations of this sort would be much easier than combining two or more small owner-operated farms into a large one because of the stronger attachments of owners to the land. On large plantations an alternative to combining the tracts now operated by two or more croppers or tenants would be to establish several family-sized, owner-operated farms. While this might be socially desirable, it probably would not provide a larger number of efficient-sized units than enlarging tenant-operated acreages, and would require much more drastic action.

Consolidation of operating units into more efficient-size farms would mean, of course, that many of the region's farmers would find it necessary to go elsewhere in order to continue farming, or seek employment in industry. Except for large cut-over areas such as that in the Mississippi Delta, and possibly some western lands made cultivable by means of irrigation, the chances for many displaced farmers finding productive farms in less-crowded areas seem rather remote.

The principal factor conditioning the consolidation of operating units, and therefore de-emphasis of cotton in the high-cost areas of the Southeast, would appear to be the degree to which industry can absorb the surplus farm population and the industrial payrolls can provide effective demands for the agricultural production of the region. While industrialization of the South doubtless would go a long way toward alleviating some of the critical agricultural ills of the region, achievement of this goal will not be easy. To assume that the South can be made an industrial empire merely because the region has a variety of raw materials at hand is to overlook many other elements that are involved in the geographic location of economic activity. Although the initial stages of extractive industries must be located at the source of supply, the intermediate steps in the processing of the finished product often can be carried out more economically at or nearer the principal consuming markets. With but few exceptions—of which the textile industry is the classic example—cheap labor has not been a sufficient inducement to entice a considerable amount of industry to the South. The willingness of southern states and municipalities to make concessions to industries regarding taxes if they would "come South" has had little effect on the influx of industries. Nor does it necessarily follow that the

recent ICC order bringing freight rates for the region in line with those in "official" territory will eliminate enough of the deterrents to industrialization to have any marked effect. The inflow of capital to the South and the technical skills many southerners have acquired during the war should remove, or at least diminish, two past impedimenta to industrialization of the region. But it is time to stop talking of the South's "natural advantages" for industrialization and analyze some of the basic factors that in the past have hampered rapid industrial expansion in the region and made it necessary to offer special inducement to attract what little industry we now have that is not necessarily raw-material oriented.

The well-being of the American cotton grower in the postwar period will be conditioned in no little measure by nonagricultural factors. World-trade arrangements, monetary stabilization schemes, and tariff policies certainly will have an important bearing on our cotton export markets. Vigorous world-wide industrial activity will mean a high level of purchasing power for consumers of products of which cotton is a component, and will provide needed industrial outlets. Conversely, a business recession shortly after the end of the war will mean postponement of purchases of apparel and household goods and lower industrial cotton consumption.

Minor improvements in the southeastern farmer's living can be accomplished by further increasing yields through adoption of recommended production practices, by making certain changes in the use of the land now in his possession, by modification of credit and tenure arrangements, and by encouragement of live-at-home programs. But real gains can be achieved only by enlarging the acreage per person. A land base inadequate to support the people at a very high level of living is at the root of many of the region's economic and social ills. The small acreage of cropland—often naturally infertile and severely eroded—per farm family is a major factor limiting the amount of income that a farm family can earn and a barrier to shifting from cotton to a more extensive type of farming. Until the land resources and the farm population of the region are brought into better balance, farmers will continue to plant the crop or crops that give the highest returns per acre. For many farmers this means continued production of cotton on as large a scale as their physical resources, labor supply, and acreage restrictions, if any, will permit.

In those areas where widespread adoption of machine methods becomes both feasible and economical, many farm people, particularly Negro share-croppers, will no longer be needed for cotton production and harvesting. In areas where it seems warranted, substantial reduction of the emphasis upon cotton can be accomplished only by consolidation of many small units into fewer larger ones with the attendant displacement of farm people. Thus, any permanent solution of the cotton problem in the Southeast necessitates shifting a part of the present farm population of the region to more promising agricultural sections or out of agriculture entirely, or a combination of both. The only alternative is relief and subsistence rehabilitation in place. It is recognized that, although agricultural depopulation of much of the region seems advisable, the process will be slow and painful and, unless stimulated by direct governmental action, might drag on indefinitely. Governmental action might well include providing vocational training for rural youths, grants-in-aid for greatly im-

proving the public school systems, subsidized industrialization of the region, conversion of the least productive and most severely eroded sections into national forests, regulating the use of other lands by means of rural zoning ordinances, and benefit payments designed to enable farmers to enlarge their holdings and establish a better-balanced system of farming. Failure of public agencies to cushion the shock involved in bringing land resources and rural population into better balance will entail untold hardships and sufferings. The cooperative efforts of government—federal, state, and local—agriculture, labor, and industry will be required to hold these ills at a minimum.

Japanese Agriculture on the Pacific Coast

By ADON POLI *and* WARREN M. ENGSTRAND*

THE most spectacular and unprecedented forced mass migration in the history of our nation was precipitated by the outbreak of hostilities between the United States and Japan on December 7, 1941. Within a few months an entire segment of the population of the west coast was abruptly picked up and placed in ten relocation centers which were established inland west of the Mississippi River.

The proclamation excluding all men, women, and children of Japanese ancestry from the Pacific Coast was issued March 2, 1942. Orderly movement of these people started shortly thereafter. By October 31, 114,222 persons had left; 92,785 had been evacuated from California, 12,892 from Washington, 3,714 from Oregon, and an additional 4,831 had migrated into the interior states of their own accord.[1]

The Japanese[2] had not been in this region as long as had most of the other racial groups. Few of them arrived until after 1885, when the Japanese government sanctioned emigration of its people. Then they began coming in such large numbers that immigration restrictions were imposed gradually, culminating eventually with the immigration law of of 1924 which absolutely excludes Orientals.[3] The trend in Japanese population since 1890 is shown in Table I and the 1940 distribution is shown in Figure 1.

Japanese were attracted to agriculture as a means of livelihood. Most of them started out as farm laborers. The usual arrangement was working in groups under the direction of Japanese leaders or "bosses," individuals who bargained with farmers in supplying laborers on a wage or contract basis.

The Japanese farm laborers soon became proficient in American farming

* Bureau of Agricultural Economics, U. S. Department of Agriculture. The authors gratefully acknowledge contributions of R. B. Cozzens and Russell T. Robinson of the War Relocation Authority, and of H. E. Selby and Ruth E. Sauer of the Bureau of Agricultural Economics in the preparation of this article.

[1] War Department, *Final Report; Japanese Evacuation from the West Coast* (Washington, D. C.: U. S. Government Printing Office, 1943), pp. 356-380.

[2] In this article the term "Japanese" refers to all persons of Japanese ancestry, including both alien Japanese and American citizens.

[3] V. Fuller, *The Supply of Agricultural Labor as a Factor in the Evolution of Farm Organization in California* (In U. S. Congress, Senate, Committee on Education and Labor, Violations of Free Speech and Rights of Labor), Hearings . . . 76th Cong., 3rd Sess., p. 54, *Agricultural Labor in California*, p. 19829.

TABLE I. DISTRIBUTION OF JAPANESE POPULATION IN THE UNITED STATES, BY DECADES, 1890-1940*

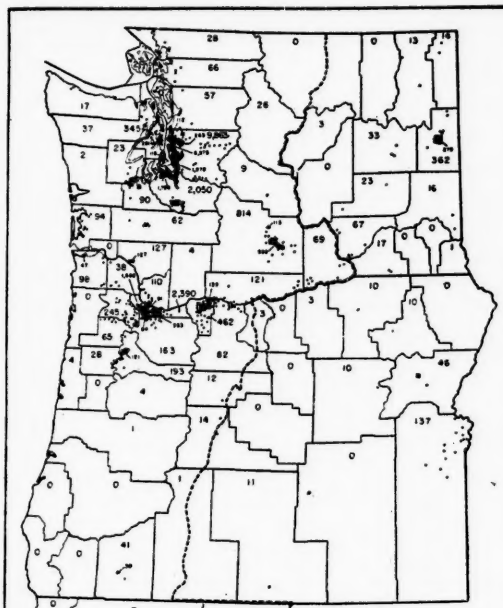
Area	1890		1900		1910		1920		1930		1940	
	Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
California	1,147	56.3	10,151	41.7	41,356	57.3	71,952	64.8	97,456	70.2	93,717	73.8
Washington	360	17.6	5,617	23.1	12,929	17.9	17,387	15.7	17,837	12.8	14,565	11.5
Oregon	25	1.2	2,501	10.3	3,418	4.7	4,151	3.7	4,958	3.6	4,071	3.2
Three-State Totals	1,532	75.1	18,269	75.1	57,703	79.9	93,490	84.2	120,251	86.6	112,353	88.5
All Other States	507	24.9	6,057	24.9	14,454	20.1	17,520	15.8	18,583	13.4	14,594	11.5
U. S. Totals	2,039	100.0	24,326	100.0	72,157	100.0	111,010	100.0	138,834	100.0	126,947	100.0
American-born	.....	.....	269	1.1	4,502	6.2	29,672	26.7	68,357	49.2	79,642	62.7
Foreign-born	2,039	100.0	24,057	98.9	67,655	93.8	81,338	73.3	70,477	50.8	47,305	37.3

Source: Bureau of the Census.

FIGURE 1.

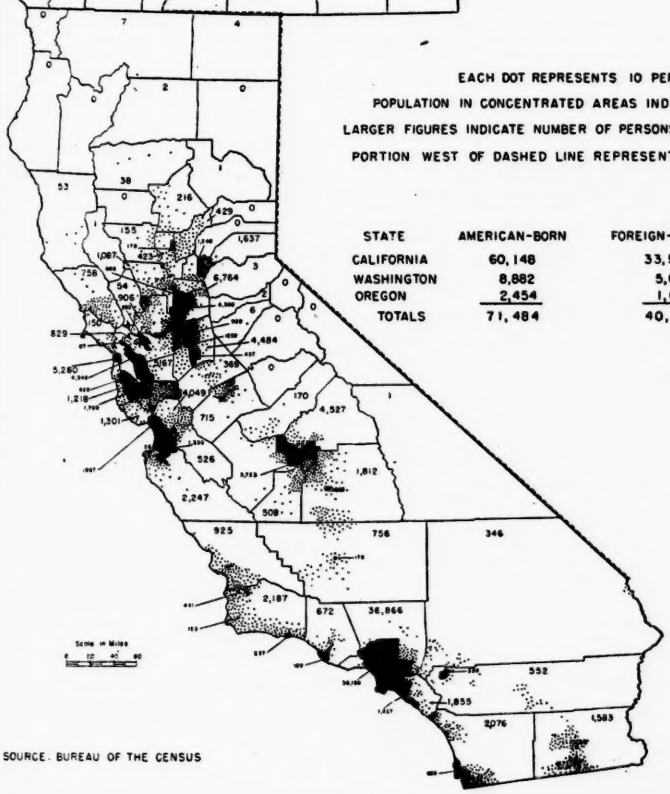
JAPANESE POPULATION

CALIFORNIA WASHINGTON AND OREGON
1940



LOCATED BY MINOR CIVIL DIVISIONS

INCLUDES BOTH AMERICAN- AND FOREIGN-BORN PERSONS



EACH DOT REPRESENTS 10 PERSONS

POPULATION IN CONCENTRATED AREAS INDICATED BY NUMBER

LARGER FIGURES INDICATE NUMBER OF PERSONS WITHIN EACH COUNTY

PORTION WEST OF DASHED LINE REPRESENTS EVACUATED AREA

STATE	AMERICAN-BORN	FOREIGN-BORN	TOTALS
CALIFORNIA	60,148	33,569	93,717
WASHINGTON	8,882	5,683	14,565
OREGON	2,454	1,617	4,071
TOTALS	71,484	40,869	112,353

SOURCE: BUREAU OF THE CENSUS

U.S. DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS

techniques, and it was not long before they began leasing farms from some of their former employers, usually on a share basis. Most farm owners found this arrangement profitable. They received a good share of the crop; they were relieved of farm labor problems; and, as the Japanese were good workers, they usually obtained high yields. This transition from farm laborer to farm operator was encouraged by processing companies and commission merchants who financed Japanese farmers through crop liens or special marketing agreements. By hard work, industry, and shrewd bargaining, many Japanese farmers proceeded upward along the agricultural ladder from farm laborer to sharecropper and tenant, and some to ultimate farm ownership.

Farm Tenure

Of the 109,391 persons evacuated in 1942 from California, Washington, and Oregon, 5,930 were registered as operators of farms totalling 266,120 acres of land. Although the Army's evacuation program applied also to the southern part of Arizona, this area is not considered here because of the relatively few Japanese farm operators evacuated from Arizona. Furthermore, the figures do not include land in farms which may have been operated by any of the 4,831 Japanese who migrated voluntarily from the West Coast because their property was not subject to registration by the military authorities. Since the total evacuee-operated farm acreage registered in all 3 states, however, was somewhat greater than that classified as operated by Japanese by the 1940 U. S. Census, it is unlikely that much land was farmed by those who left voluntarily. The Japanese farmers who were evacuated were not all individual operators. Included were those in partnerships of 2 or more persons, and corporations.

The distribution of the evacuee farm operators and farm acreage by states is shown in Table II. The geographical distribution of the farms was similar to that of the Japanese population as shown in Figure 1.

Farm ownership by Japanese on the Pacific Coast has always amounted to less than 1 percent of the total number of farms, total farm acreage, and total cropland in the evacuated area. In 1942, 28 percent of the total number of evacuee-operators owned all of the land they operated; 6 percent owned only part. Sixty-five percent of the operators were tenants who leased all of the land they operated, and 6 percent were part-owners who leased part and owned part. Altogether, evacuee farm operators leased 70 percent of all the land they operated. Farm tenancy in this region as a whole is less than 20 percent.

In the evacuated region there is normally more tenancy in some types of farming than in others. For example, there is more tenancy in truck- and field-crop-producing areas such as Imperial Valley, Calif., than in fruit farming areas like Hood River County, Oreg. This relationship was also true of evacuee farmers. There was generally less tenancy in counties where they produced considerable fruit, grapes, and other perennial crops, than where they produced mostly vegetables and other annual crops.

As indicated previously, Japanese farmers usually started at the bottom of the so-called "agricultural ladder" as farm laborers, worked their way upward to farm tenancy, and then advanced, perhaps, to farm ownership. Even under ideal conditions, this method of attaining farm ownership status requires many years as a farm laborer and tenant in order to earn and accumulate sufficient capital with which to buy and equip a

farm. The high proportion of farm tenancy among evacuee farmers probably was due in part to insufficient time for them to have become owners.

Although doubt has been expressed concerning the real effectiveness of the alien land laws, the forces which effected these measures probably deterred many eligible persons of Japanese ancestry from acquiring permanent tenure status, particularly ownership of farm land, in areas where local attitudes were not favorable. Because of this uneasiness, many may have preferred tenure of land which would permit them to move on short notice if necessary—and a type of farming that requires a minimum of capital investment for permanent farm structures and perennial crops. Thus, the restrictive measures, to the extent that they have discouraged farm ownership by persons of Japanese ancestry, probably have contributed to establishing an unstable tenure pattern with associated undesirable features inherent in short-term leasing, insecurity of land occupancy, and high tenant mobility.

Size of Farms

Evacuee-operated farms on the West Coast were considerably smaller than other farms, on the average. In 1942, the average size of evacuee farms was 45 acres of land. That of other farms was over 200 acres. Evacuee farms in California averaged about 10 acres larger than those of Oregon and about 17 acres larger than those of Washington (Table III). Over three-fourths of the evacuee farms were smaller than 50 acres.

There was considerable variation in average size of evacuee farms between counties, ranging from 2 to over 200 acres, depending largely on type of

TABLE II. DISTRIBUTION OF EVACUEE FARM OPERATORS, AND OF THE LAND OPERATED, BY TYPE OF TENURE, 1942*

	California	Washington	Oregon	Entire Evacuated Area
Evacuee operators (*number*)	4,908	692	330	5,930
Tenure of Operators				
Full-owners (*percent*)	28.4	21.4	39.0	28.2
Part-owners (*percent*)	6.3	7.8	4.6	6.4
Tenants (*percent*)	65.1	70.4	56.4	65.2
Managers (*percent*)	0.2	0.4	.....	0.2
TOTALS (*percent*)	100.0	100.0	100.0	100.0
EVACUEE FARM LAND (*acres*)	232,650	21,320	12,150	266,120
Tenure of Land				
Owned by:				
Full-owners (*percent*)	22.3	25.1	37.3	23.2
Part-owners (*percent*)	7.4	4.1	3.4	6.9
Leased by:				
Full-tenants (*percent*)	60.5	64.9	57.0	60.7
Part-owners (*percent*)	9.4	5.7	2.3	8.8
Managed (*percent*)	0.4	0.2	.....	0.4
TOTALS (*percent*)	100.0	100.0	100.00	100.0

* *Source:* WRA Evacuee Property Records

farming and degree of urbanization. Counties with greatest urban development generally had the smallest evacuee farms.

Japanese farms were small because of specialization in intensive crops with high returns per acre. Very few evacuees went into livestock farming which required extensive acreages of forage crops or range land. The few with dairy farms or those who grew field crops had considerably larger acreages than the average for all evacuee farms.

Most evacuees preferred to farm small acreages intensively. Through interplanting, double cropping, and the application of considerable hand labor, evacuees got production and incomes on these small farms often comparable to those of other farmers with larger acreages of similar crops.

Crops Grown

Most of the Japanese farming activities were concentrated in the intensive farming areas of southern California, the great Central Valley, and the central coastal region of California; the Seattle, Tacoma and Yakima areas of Washington; and the Portland and Hood River regions of Oregon.

The acreage of crops on farms of evacuees during the early part of 1942 when the military evacuation began was about 181,000 acres (Table IV). This was 68 percent of the total land in their farms. Farming enterprises favored by evacuees were truck, grapes, fruit, berries, nursery stock, poultry, and a few field crops.

Evacuees were most successful in the growing of intensively cultivated crops such as vegetables and berries. Almost half of their cropland was in vegetables. The evacuee acreage of vegetable crops amounted to about a fifth of the total for the region. It is probable that their proportion of the total value of these crops may have been even higher be-

TABLE III. SIZE OF EVACUEE HOLDINGS AT TIME OF EVACUATION AND AFTER TRANSFER TO NONEVACUEE OPERATORS, WEST COAST EVACUATED AREA, 1942*

ITEM	Before Evacuation		After Transfer[1]	
All Land in Farms (*acres*)	266,120		266,120	
Holdings (*number*)	5,930		5,075	
Average Size (*acres*)	44.9		52.4	
	Percent of Holdings	Percent of Land	Percent of Holdings	Percent of Land
Size of Holding (*acres*)				
0— 9	20.0	2.3	19.4	1.8
10— 29	39.8	14.9	36.7	12.1
30— 49	17.1	14.2	17.8	12.9
50— 99	13.5	20.5	14.9	19.5
100—219	7.3	22.2	7.9	21.3
220 & over	2.3	25.9	3.3	32.4
TOTALS	100.0	100.0	100.0	100.0

[1] Former evacuee land only, excluding non-evacuee land with which it may have been combined.
* *Source:* WRA Evacuee Property Records

cause of their intensive methods of farming. Tomatoes, lettuce, melons, asparagus, onions, beans, cabbage, peas, celery, spinach, and cauliflower were favorite crops.

Berries were an important crop. In California, evacuees grew 70 percent of the total acreage of all types of berries, and 85 percent of the acreage of strawberries. Almost a third of the total crop acreage of evacuees in Oregon was in berries. They were grown in all 3 states.

Grapes were grown on about a sixth of the acreage cropped by evacuees. They were almost all produced in the San Joaquin and Sacramento Valleys of California.

Deciduous fruits and nuts accounted for about an eighth of the land cropped by evacuees. Popular varieties were plums, peaches, pears, prunes, apricots, apples, almonds, walnuts and cherries. With the exception of some acreage of apples, pears and cherries in Hood River County, Oregon, most fruit and nut crops were grown in California.

Although field crops occupied about a sixth of the crop acreage, in terms of value of products they probably were not as important as the smaller acreages of the more intensively cultivated crops. Sugar beets, which made up a third of the total field crop acreage, were the major crop. Sugar beets were grown in California only.

Evacuees operated many nurseries throughout the West Coast, but most of them were in California, situated near and in urban centers along the coast and in the central valley. Nursery stock, seed plants, and flowers amounted to almost 3,000 acres.

Few evacuee farmers chose livestock farming, with the exception of poultry. Poultry often was raised on farms which also grew crops. Some strictly poultry farms were operated by evacuees in poultry-producing areas like those in Sonoma and Los Angeles counties, California.

Cooperative Marketing of Crops

An interesting characteristic of evacuee farming was the ability of evacuees to grow truck crops on small family operated farms and yet survive competi-

TABLE IV. ACREAGES OF MAJOR TYPES OF CROPS GROWN BY EVACUEES ON THE WEST COAST, BY STATES, APRIL 1942*

TYPE OF CROP	California		Washington		Oregon		Evacuated area	
	Acres	*Pct.*	*Acres*	*Pct.*	*Acres*	*Pct.*	*Acres*	*Pct.*
Truck crops	79,482	48.3	5,896	56.6	1,596	24.3	86,974	47.9
Field crops	27,067	16.5	2,350	22.6	875	13.3	30,292	16.7
Grapes	27,694	16.8	.....	.....	10	0.2	27,704	15.3
Deciduous fruits	17,736	10.8	49	0.5	1,907	29.0	19,692	10.8
Berries	6,075	3.7	2,089	20.0	2,137	32.6	10,301	5.7
Nursery crops	2,934	1.8	34	0.3	21	0.3	2,989	1.6
Nut crops	1,895	1.2	.....	.....	22	0.3	1,917	1.1
Subtropical fruits	1,557	0.9	.....	.....	.....	.....	1,557	0.9
All types	164,440	100.0	10,418	100.0	6,568	100.0	181,426	100.0

* *Source:* WRA Evacuee Property Records

tion from large-scale grower-shipper vegetable producers. In the Imperial Valley, for example, most non-evacuee small farm operators contend that vegetable production for them is too risky, principally because of difficulty in marketing. The non-evacuee truck crop acreage in this valley, therefore, is controlled largely by large-scale grower-shippers. This same condition exists also in many other parts of California where vegetable crops are grown.

This situation, however, was not true of evacuee farmers. Although their farms were small, they grew and marketed truck crops successfully. In the southern California coast region, evacuee farmers, mostly with small farms, were such successful truck crop producers that the non-evacuee grower-shippers complained of being frozen out by evacuee competition.

Important reasons advanced for the evacuees' success in truck farming are their aptitude for that type of agriculture and their ability to organize successful cooperative organizations. The evacuees were a cohesive group. They seemed to prefer group to individual action much more than farmers of most other nationalities. This trait is exemplified in the numerous religious, social, educational, and commercial organizations which evacuees had established throughout the West Coast.

Japanese farmers' associations and the employment by them of representatives who knew English and marketing practices were a rational outgrowth from the competitive inequality of the individual early immigrants who spoke little English and had not yet acquired familiarity with the hazards of marketing produce.

Evacuee farmers' associations in southern California were more complex and extensive in their operations than elsewhere on the West Coast. Farmers' associations formed marketing organizations which were linked with the marketing associations in Los Angeles for the channeling of farm produce from farm to market. These Japanese marketing organizations were usually incorporated and financed by sales of shares and by assessments on units of produce marketed. Through their associations the truck farmers also engaged in group buying of fertilizers and other supplies at reduced rates. In addition, the evacuee farmers' associations and some of the marketing associations were joined into a service federation which, for an annual fee, provided its members with a daily newspaper and daily radio broadcasts of produce prices.

In other areas of California, such as San Joaquin County, the evacuee farmers' association appear to have operated independently of each other. Commonly, sales were made directly in the local public markets or to processors and packers for shipment East. And,

"It must not be assumed that the Japanese never took part in general community enterprises and agreements. In San Joaquin County, for example, all the tomato growers of a locality met with cannery representatives to establish the price per ton of tomatoes in the coming season. The Japanese cooperated and were in fact rather proud to be able to produce on a large scale and to have the security of a cannery contract. Also, as members of water districts they had to cooperate in the use of irrigation water. Probably no one really understood it, but most farmers felt themselves part of an intricate system, even before the war emergency and federal regulations further systematized agriculture . . .

"Also it must not be assumed that Japanese farmers rarely marketed their crops through private companies. In many neighborhoods from which crops went to the local fresh-produce market, there were direct dealings with the consumer or with private wholesale companies and large retail grocery chains. In some cases the individual farmer, in other cases his association, sold to the chain. In

Los Angeles the wholesale companies dealt with were usually Japanese. In much of San Joaquin County and in other places where there was a concentration on a few large commercial crops (prune plums or table grapes, for example) and where the Japanese associations had not developed to the point of having good outlets among wholesalers in the Midwest and East, then the privately-owned shipping companies provided the chief outlet."[4]

In the state of Washington, where the evacuees settled for the most part in the Puget Sound counties of King and Pierce, small truck farm acreages comparable to those of Los Angeles County were the prevailing type of enterprise. Produce was marketed through cooperative societies composed largely of evacuees, although non-evacuee growers also were members. These cooperative societies handled the produce for the local fresh market and also for shipment to the East.

Most of the vegetables in Oregon were raised on the farms in the area about Portland. Fresh produce for the most part was hauled by individual growers to the Portland wholesale market operated by an association, and smaller amounts were delivered to large wholesale distributing houses. A large proportion of the produce was taken up by shippers for delivery out of the state. Some vegetables and fruits for canning were raised under contracts with the canneries, whereby the latter were guaranteed a certain amount of the product in return for seed and fertilizer loans.

Disposition of Farming Interests During and After Evacuation

The evacuation of Japanese farmers from the West Coast raised a serious problem because of the possibility of disrupting the agricultural economy of that region by the abrupt removal of about 6,000 established farm operators. To insure uninterrupted performance of farming operations and to protect growing crops, then considered vital in the successful prosecution of the war, a plan was placed into operation that would accomplish the intended evacuation with maximum expediency and a minimum of crop loss.

A field organization was established, consisting of agents stationed at service centers located throughout the evacuated area. Their duties were to register and obtain information about farms of Japanese subject to evacuation, and to find other suitable farm operators to take them over. Considerable publicity was given the program in order to inform the evacuees and the general public concerning the agricultural aspects of evacuation and to induce substitute farm operators to take over the farms as they were being relinquished.

To encourage further occupancy by non-evacuee operators, special short-term agricultural production credit for general operating expenses was provided to otherwise eligible substitute farm operators. A special negotiations unit was established to handle transactions involving the consolidation of small specialized evacuee farms into larger farm enterprises. In some instances, corporations were organized and sponsored by local leaders, agricultural cooperative groups, associations, and real estate companies to acquire and manage these consolidated farm holdings. Financial assistance was provided for this purpose also when necessary.[5]

Approximately 5,075 non-evacuee substitute operators took over the 266,120 acres of land registered by the 5,930 evacuee-operators. The transfer of opera-

[4] United States Department of the Interior, War Relocation Authority, Community Analysis Section. *Relocation at Rohwer Center; Part III.* "Background for the Resettlement of Rohwer Farmers," by Margaret Lantis. pp. 10-11, mimeo. 1945.

[5] War Department, *op. cit.*, pp. 136-144.

tion and management of evacuee farming interests in most cases involved negotiation, reassignment, or cancellation of leases, rather than actual transfer of ownership title from evacuees to non-evacuees. Many farms were taken back by the original owners who had leased them to the evacuees. But the evacuation program also stimulated transfers of ownership, largely because of future uncertainties facing the evacuees.

The evacuee property records of the War Relocation Authority show that on March 1, 1942, the day before the evacuation proclamation was issued, there were approximately 2,300 separate Japanese ownerships of farmland within the evacuated area. These included ownerships of 1 acre or larger by individuals, groups of individuals, and organizations amounting to a total of about 80,000 acres of farm land. Some land held through purchase contracts was included as well as land in recorded ownerships.

During the military evacuation, which extended from March 2 to October 31, 1942, sales of farms by evacuees reduced the number of land ownerships to about 2,100 with recorded interests comprising less than 70,000 acres of agricultural land.

In all three states most of the transfers took place during the first several months of the evacuation period. There was a period of little or no activity starting immediately before and extending beyond the final date of evacuation, followed by a resumption of transfers in 1943. The uncertainty of future developments in nations at war and the desire to liquidate property into ready cash for emergency use undoubtedly were strong motives for disposal of property at the beginning when evacuation measures were being formulated and publicized. Some acquisition of property by Japanese was indicated by recorded instruments, particularly during the early part of the evacuation period. This may have been stimulated by settlement of business affairs before leaving, such as the payment and termination of land purchase contracts and other liens and outstanding obligations. The period of inactivity starting immediately before and extending beyond the final evacuation date may have been due to difficulty of evacuees in negotiating business transactions while moving, first into Army Assembly Centers, and later into WRA Relocation Centers. Activity resumed during 1943 probably because the Evacuee Property Division of the War Relocation Authority was well established by that time to assist in handling of evacuee property transactions, and most evacuees had become settled in the Relocation Centers, and again were able to divert some attention to their property.

More recent figures for transfers recorded during 1944 and 1945 show that farm property transfers from Japanese to non-Japanese are continuing. Probable reasons for this continued activity are the relocation of evacuees in the interior and eastern states and the current high land prices. As evacuees become permanently relocated in other localities they may be inclined to dispose of their prewar property holdings on the West Coast.

As indicated by the smaller number of non-evacuee substitute operators than of evacuee operators, some consolidation of former evacuee-operated farms occurred in the transfer process. The average size of non-evacuee farm holdings of former evacuee-operated farms increased about a sixth over the average size of former evacuee-operated farms (Table III). The average size of holdings increased in all 3 states, but increased most in California.

This consolidation of former evacuee farms represents partly the acquisition of former Japanese farm interests by a few large-scale operators, many of whom were in the same competitive field, and partly the results of a special program of the evacuation authorities. After the farm evacuation program had operated a few days, it became difficult to obtain qualified farm operators for individual farms, particularly units with very small acreages. Experienced farm operators and farm workers had become scarce because of alternative employment opportunities created by the war. Prospective farmers, therefore, were not eager to acquire small individual evacuee farms with limited income capabilities when better opportunities existed elsewhere. It was discovered also that this condition encouraged unscrupulous large-scale operators in making "profitable" unauthorized deals at the expense of the evacuees by taking over and consolidating these properties.

In order to speed up the farm evacuation program, to keep up production schedules, and to more ably protect the evacuees' interests, special efforts were then made to induce grower and shipper corporations as well as individual farmers to take over the management of authorized consolidated evacuee farm holdings. Most of the consolidation of evacuee farms in certain fruit areas like those in Placer and Sacramento counties was sponsored by the evacuation authorities. In other areas there may have been considerable unauthorized consolidation by special interests.

Popular Attitudes Toward Returnees

The order excluding all persons of Japanese ancestry from the western evacuated area was rescinded January 2, 1945. All such persons loyal to the United States are now free to return to this area. What are the prospects for their orderly and peaceful return to their former residences, farms, and occupations?

That a latent or active antagonism against persons of Japanese origin is shared by many residents of the West Coast must be admitted. The roots of this antagonism have been cultivated for many years. The Japanese were among the last of numerous alien minorities to settle on the Pacific Coast. The original immigrants, some of whom have not learned adequate English and who have kept their Japanese ways, still make up a fair but rapidly diminishing proportion of the total number. Their children, who have gone through American schools, have been more hampered in being accepted as Americans than has the second generation of other immigrant groups. Furthermore, their easily distinguished physical characteristics, coupled with their conspicuous competitive position, have singled them out as targets for dislike.

Almost half of the Japanese-Americans have engaged in agriculture and as a result hostility toward them is much more pronounced in the agricultural counties than it is in the urban centers. This reaction has been re-enforced by the fact that the relative isolation of some rural areas has not fostered as much cultural integration as it has in cities and larger towns. Groups and individuals connected with agriculture have often taken the lead in anti-Japanese agitation. They allege that their economic welfare has been threatened by an aggressive minority. The tendency of any people to be guarded in its attitude toward an alien group has frequently been diverted into hostility toward the Japanese-Americans by assertions that their living standards are low and their

birth rate is high,[6] that they mine the soil,[7] and that they are Japanese first and Americans second. These and other allegations have a specious appeal; they are true only in specific instances and false generally. The restrictive legislation and discriminatory treatment directed toward the Japanese-Americans, contradictory to the principles of American equality, have been rationalized on the grounds of necessity.

The war against Japan and the dramatic mass exclusion of all persons of Japanese ancestry from the Pacific Coast was proclaimed by many residents of these states to be an overt admission that the evacuees were, as a race, actively dangerous to public safety. Their expulsion was regarded as a victory by all those who felt they were rid of economic competitors and by those who, without having any material interest, disliked them on the grounds that they were a culturally alien and unassimilable race.[8] Agitation did not subside after their evacuation. In its more extreme form, hatred of the enemy, Japan, included the evacuees as well. In its more moderate aspects, antagonism against their return was concealed in declarations that they be kept in "protective custody" for their own safety.

The announcement in December 1944[9] that the evacuees would have the legal right to return provoked more agitation in the form of resolutions and intimidations. Despite the repeatedly expressed determination of state and local officials that their return should be peaceful and unimpeded, several acts of violence occurred in the agricultural valleys of California. Incendiary fires were started and random shots fired into evacuee homes. Organizations interested in discouraging the evacuees' relocation on the Pacific Coast have condemned violence but by their very vehemence have probably incited it.[10]

Anti-Japanese sentiment reflects only one division of public opinion on the West Coast. Particularly after the first apprehensions over a possible invasion had quieted, many people began to raise questioning doubts of the necessity for the transportation and segregation of a whole people. It began to appear that probably race hostility had been a primary motive for their elimination. Even though the evacuees were receiving fair treatment, the Japanese government was propagandizing throughout the Far East that this was a race conflict despite the pretensions of the democratic Americans that they were waging a war to suppress fascism. An increasing number of thoughtful persons regarded the evacuation as a violation of constitutional rights and an unwholesome precedent.

It is this conviction which has brought together on the West Coast a considerable body of associations and civic groups as well as prominent individuals who have united in affirming that American principles of tolerance and equality must be vindicated. Among

[6] U. S. Congress, House, Select Committee Investigating National Defense Migration. *National Defense Migration; Fourth Interim Report (H. Rpt. 2124). 77th Cong., 2d Sess. Pursuant to H. Res. 113, A Resolution to Inquire Further into the Interstate Migration of Citizens . . . Findings and Recommendations on Evacuation of Enemy Aliens and Others from Prohibited Military Zones, May 1942.* p. 91. (Washington, D. C.: U. S. Govt. Printing Off. 1942).

[7] E. G. Mears, *Resident Orientals on the American Pacific Coast; Their Legal and Economic Status.* Preliminary Report Prepared for the July 1927 Conference of the Institute of Pacific Relations in Honolulu (Chicago, Ill.: University of Chicago Press, 1928), pp. 245, 246.

[8] U. S. Department of the Interior, War Relocation Authority, Community Analysis Section. *Prejudice in Hood River Valley; A Case Study in Race Relations*, p. 3, mimeo. Washington, D. C. 1945.

[9] The actual order followed this announcement on January 2, 1945.

[10] Noteworthy among these organizations is the Japanese Exclusion League of Oregon. Its journal calls attention to the brutalities of the Japanese enemy and at the same time censures violence. This organization has changed its name to the Oregon Property Owners Protective League probably because of its wider appeal.

these organizations are the Pacific Coast Committee on American Principles and Fair Play, League of Women Voters, Council for Democracy, American Civil Liberties Union, and the Institute of Pacific Relations. Shortly after the exclusion orders were lifted a large number of organizations met in San Francisco under the auspices of the Pacific Coast Committee on American Principles and Fair Play where they worked on plans for easing the return of the evacuees. Even more significant has been the continued activity in California, Washington, and Oregon of councils of civic unity, church conferences, labor unions, and laymen who are fostering a tolerant reception of the evacuees.

Reaction to the announcement of the return of the Japanese evacuees was for many people a release of emotion over one more unresolved problem. The Pacific States are congested with an unparalleled in-migration. Housing, transportation, and other shortages are prevalent. The war has altered the economy of these states more than that of the rest of the nation, and their residents are concerned over the postwar future. Some resentment against the returnees is inevitable. But the first rush of feeling has receded and opinion is tending toward a more neutral course. Many will not welcome the returnees back to their homes and farms but leadership on the West Coast is in the hands of those who insist on their peaceful return and the great majority of people are joined with them.

Are They Returning?

Very few Japanese returned during the winter and spring months following the rescinding of the evacuation order on January 2, 1945. But by the end of September the number leaving the evacuee centers was approximately on the schedule anticipated by the War Relocation Authority. At that time about 25,000 had resettled in California, Oregon and Washington. Since then, however, the proportion of resettlers returning to their states of origin has increased and it now seems likely that somewhere between 40,000 and 50,000 out of about 110,000 evacuees will have returned to these three states by December 15, 1945, the date set for the closing of the relocation centers. Others[11] will have scattered in the Midwest and Eastern States with a very few settled in the South.

Undoubtedly a large proportion of the evacuees would prefer to resume their former ways of life in the familiar environment of the West Coast. But the fact that several thousand have decided to relocate in the relatively unknown East and Midwest indicates that they expect to receive more equitable treatment in those areas than they did in the West.

The evacuee farmers are more attached to their former occupation than those who followed other pursuits. Despite restrictive measures imposed, many felt a deep devotion to the land and it is hard for them to conceive of any other way of life. They realize they face opposition on their return to the farming lands of their previous residence. They fear that if they resettle in groups, that public opinion will not permit it, and that if they locate separately, they will be frozen out by other racial groups. Farm laborers fear to be employed singly, but in groups under leadership of their own race they anticipate discrimination.

The large proportion of the evacuee farmers who had leases will experience considerable difficulty in re-establishing

[11] By January 2, 1945, when the exclusion order was abrogated, about 35,000 had relocated outside of the West Coast.

themselves on farms because nearly all of their leasehold interests were transferred to non-Japanese during and after evacuation. Immediate reoccupation of farms by former evacuees on the West Coast, therefore, is limited largely to the relatively few who have managed to retain ownership of their farms.

Farm ownership by Japanese amounted to about 30 percent of their total pre-war farm operations. Ownership transfers to nonevacuees during and after evacuation has probably reduced these farm ownership interests to less than a fourth of the total pre-war Japanese land holdings, including leaseholds. This will amount to roughly 60,000 or 65,000 acres, or less than 0.002 of all of the land in all farms in the 3 states.

Even though some of the evacuees who have already relocated in the Midwest and the East may return and reacquire farms on the West Coast, there is now little evidence that the Japanese-American will soon regain any prominence in the agriculture of the West Coast.

Chilean State Electrification

By DOMINGO SANTA MARÍA*

The following article was accepted for publication because it gives some insight into the concern of the people of this South American country into the development of one of its natural resources. It makes no attempt to interpret, to analyze, or to prophesy; but it is significant. Because of the unpredictable difficulties of mail service to Chile the author has granted the editor license in clarifying his academic English. Therefore, the editor, shares responsibility for any questioned statements.

CHILE'S national energy is now devoted to raising its standard of living, including improvement of educational standards. Greater industrialization of the whole Chilean state is an essential. Hydroelectric power, one of the natural resources, can be distributed to every home in the country, giving them the advantages obtainable from electricity. It is proposed to provide electrification in both the urban and rural areas; also to partially industrialize the farms and improve the transportation facilities of workers to the manufacturing plants and industries.

The study of an electrification plan for Chile was first started in 1935 by a group of Chilean engineers through the Institute of Engineers of Chile. They held a series of conferences and later published a report recommending an electrification program for the entire country. The report called attention to the very low generation of electrical energy, the abundance of hydroelectric water power coming from the melting snow in the Andes Mountains, the limited supply of coal, and the absence of oil in that country.

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Their program recommended full governmental control of the electric power to be developed over a period of years, but it has been only during the last 6 years that legislation has been enacted for the harnessing of electric power.

The new president inaugurated in Chile late in 1938 was elected on a progressive platform supported by the political parties opposed to the former administration.

Just a month after the new president was inaugurated, a severe earthquake occurred in the middle-south of Chile. Partial or total destruction of some cities and towns and farm buildings resulted. The new administration submitted to the Congress legislation setting forth the problems arising from the damage created by the earthquake as well as ways and means of increasing production. This legislation was approved by the Congress and became a law in 1939. The law created twin corporations. One, which dealt with the reconstruction of the devastated zone, was called the "Reconstruction and Relief Corporation." The other, which was responsible for a plan to promote national production, was called the "Corporación de Fomento de la Producción" (Corporation for the Development of Production). The latter corporation is a legal entity just as is any incorporated company, notwithstanding the fact that the total capital is derived from state sources through imposition of additional taxes.

The Corporación de Fomento is administered and directed by a Council with very wide powers. The Council is composed of 24 members. It is presided over by the Minister of Economy, and includes two members appointed by the

Senate; two by the Chamber of Deputies (house of representatives); six executive heads of semi-independent government agencies—the Mortgage Credit Bureau, the National Council of International Commerce, the Agricultural Credit Bureau, the Mining Credit Bureau, the Institute of Industrial Credit, and the Institute of Agricultural Economics; four representing the private interests through delegates appointed by the associations made up of farmers, miners, manufacturers, and the chamber of commerce; one representing the technicians, designated by the Institute of Engineers of Chile; one representing labor, designated by the Workers Confederation of Chile; and six appointed by the president of the Republic. Thus, the Council, which in many ways constitutes an economic council, is able to look upon the needs of the country through members who represent the government, the congress, the technical state bureaus, and the private interests.

The Council elects an executive vice-president. He is the legal representative of the corporation and is the actual executive head. As indicative of the stability and continuity of its functions and its interest in production efficiency, it is noteworthy that the present executive vice-president and the general manager have filled these positions since the inception of the organization (through two different governmental administrations) and both are engineers. The same situation is true with respect to most of the other personnel in the department.

The executive vice-president has the power of appointing the executive staff and all other employees with the exception of the general manager and the administrative manager who are designated by the Council.

The duties of the Council are as follows: (1) The preparation of an over-all plan for the promotion of national production intended to raise the standard of living by the development of the natural resources of the country and, by decreasing the cost of production, to improve the condition of the balance of international payments; and also, in carrying out the plan, to keep in balance the development of mining, agricultural, industrial and commercial activities. (2) The administration (in collaboration with other government agencies and /or private institutions) of the studies made to find the most adequate means of creating new products or increasing present production, improving the condition of production as to quality, yield and cost of production, also of studies intended to facilitate the transportation, warehousing and sale of products. (3) The planning of experiments (in accordance with the results obtained in the studies mentioned) in production or commerce on such a scale and with such aid as may be deemed convenient. (4) The manufacture or the importation of machinery and other materials for production. (5) The preparation of plans for the adoption of measures intended to increase the consumption of national products in order to obtain a greater participation of Chilean interests in industrial and commercial activities. (6) The study of means for financing the plan for the promotion of production, and for the specific financing of various works and the granting of loans.

In general, the Council was empowered to do all the acts and enter into all the contracts which may be necessary to attain the purposes of the Corporation. It was charged with the responsibility of developing a program for increasing production.

One of the most important projects assigned to the Council was the construction of hydroelectric power stations

and an electric system to distribute electric power to the different regions of the country sufficient to supply the needs of the population in the cities and towns, farms, mines, factories, and railroads.

The Corporation itself has been organized with seven departments. They are: (1) Energy and Fuel Department, dealing with electric power, coal and oil; (2) Industrial Department, dealing with industrial and manufacturing problems; (3) Agricultural Department, dealing with the promotion of better agricultural production from land crops as well as from cattle; (4) Mining Department, dealing with the opening of new mines and general studies of mining deposits; (5) Commerce and Transportation Department, dealing with internal and external improvement and promotion of commerce, transportation and tourist trade; (6) Financial Department, dealing with general finance and extension of internal and external loans; and (7) Control Department, dealing with the general control of the total investment of the Corporation.

Through its Energy and Fuel Department (Departamento de Energiá y Combustibles) the Corporación de Fomento for the most part adopted the view and recommendations of electrification of the Institute of Engineers of Chile. The first step was the making of a survey of the potential sources of hydroelectric power, which were not well known, and the development of a sound plan for carrying out the electrification program. In this way it was possible to decide on the construction of the first power system in the middle-south of Chile within the first year of its organization.

The Corporación de Fomento has devoted a very large part of its efforts and allocated the major portion of its income to the materialization of the electrification plan. With this end in view the Energy and Fuel Department prepared a general plan to be carried out over three periods of six years each. Such a program was approved by the Corporation Council in March 1943 and included work already under way because of the urgent need for electric power. The plan calls for an expenditure of $80,000,000 over an 18-year period, of which approximately one-half corresponds to the import of electrical machinery and materials which are being purchased in the United States through annual quotas.

The first work attempted by the Corporación de Fomento after its organization was a survey of the hydroelectric potentialities and the determination of the most economical location at which to start installing power stations in such a way as to permit the building of separated power systems for supplying the most urgent needs.

The necessity for these separated systems was due to the great distances between the different rivers and the very diversified geographical conditions existing in Chile from the northern desert region to the southern rainy and wooded region in the middle temperate zone; and from sea level to the high Andes Mountains. (The highest point is Mount Aconcagua which rises over 23,000 feet.) In Chile the sources of water power are distributed at frequent locations throughout the entire length of the land and not concentrated at points distant from the centers of consumption.

The climatic conditions regulating the water flow of the rivers indicate that the country should be divided into seven geographical regions, as far as the generation and supply of electric power are concerned.

The development of Region 1, located in the northern part (as well as of Regions 6 and 7 which correspond to the southern

part of the country) has been postponed for the time being and the main work has been concentrated in Regions 2, 3, 4 and 5, which cover the central zone where about 80% of the Chilean population lives and where the greatest economic development has occurred. (The entire population of Chile is about 5,000,000.)

The separated systems mentioned above are planned to follow the different valleys in which the rivers flow from the Andes Mountains to the Pacific Ocean, with certain ramifications to supply electrical power to the north and south of each river. Four power stations are under construction in four separate valleys and it is planned to install in the future additional power plants in series in such a way as to make use of the entire potential energy of each river. In these four power stations it is contemplated to utilize the water of the run of river through small diversion dams and to use water head from about 110 to 450 feet.

After the power systems of the different regions are developed an interconnection between them is contemplated so as to balance the availabilities of electrical energy and the demand of these systems because the rivers are located in diversified climatic sections from north to south. In the third region the maximum of river water comes in late spring and early summer from the melting snow deposits in the upper mountains which results in a maximum available power during this season. In the fifth region the maximum flood occurs in the autumn and winter as a result of the heavy rains. The flood is regulated through lakes located at high altitudes above sea level (between 700 and 2,500 feet). In this way the power plants built in this region will have their maximum power availabilities during the seasons in which the minimum occurs in the northern regions.

As a third step, it is planned to fluctuate the power between regions through high voltage transmission lines so as to obtain a maximum utilization of all the hydroelectric energy available, reducing to a minimum the generation of power in the complementary steam power plants of the different systems.

The power plants actually under construction by the Corporación de Fomento are: the Sauzal plant with 75,000 KW, the Albanico plant with 20,000 KW and an ultimate capacity of 140,000 KW, the Pilmaiquén plant with 13,500 KW and with an ultimate cacapacity of 31,500 KW, and the Puclaro plant with 3,000 KW and an ultimate capacity of 8,000 KW. Due to the war, only one unit in each power plant is under immediate installation, with the exception of Pilmaiquén which has two units and will be the first to be completed and in operation.

The Sauzal plant is located near Santiago, the main city and capital of Chile. It is designed mainly to supply power to the rich agricultural valley, to the different towns and villages, and—through rural electrification cooperatives—to the farms. It also supplies additional power to the existing Santiago and Valparaiso power system. This system is suffering a very heavy shortage of power generation at the present time. A projected line of 110,000 volts, on steel structures with copper conductors and 60 miles long, will connect this plant with the present 110,000 volt system. To this system are connected different hydroelectric and steam power plants.

The Albanico power system will supply power to a very important section of the country, mainly to the coal districts and industrial center of Concepción. The transmission line will be of 154,000 volts on steel structures with copper conductors, and 100 miles long with an additional 40-mile line of 66,000 volts.

The system corresponding to the Pilmaiquén power plant has been already built with a main transmission line at 66,000 volts and 120 miles long, on reinforced concrete pole structures with copper conductors to supply power to a rich agricultural region.

The Puclaro plant is located in the middle north and will supply additional energy to an agricultural and mining district. The transmission lines will cover about 75 miles, at 66,000 volts and with copper conductors on reinforced concrete poles, tying in different cities and mining sections and interconnecting this system with the steam power station of a cement plant.

The main aim of this scheme is to provide power for every purpose, including the Chilean State Railway's additional electrification. Much emphasis is being placed on the electrification of the railroads in the interest of coal conservation. This is of the greatest importance as Chilean coal deposits are limited and the reserves should be destined to the metallurgic and other industries. As the electric power generation and transmission is practically a monopoly, the policy of its development through a governmental agency has been adopted with the aim of giving an ample supply of electric power at low rates rather than to look for profits.

As has already been said, the Corporación de Fomento has the power to deal with any industrial, mining, and agricultural problem, its main purpose being to increase the production of the country. In this way it will be able to regulate the organization and development of new industries in connection with the electrical resources of Chile so as to carry out a coordinated plan.

Due to the wide scope of the plan for the electrification of Chile and the various other activities carried on by the Corporación de Fomento in the basic industries (such as steel, wood, chemicals and cement) as well as its attempts to increase the agricultural yield, it has been deemed advisable to organize a special incorporated company to carry the planning, construction, and operation of the different electric systems. This facilitates the development of the activities of an electric concern along commercial lines.

This subsidiary company of the Corporación de Fomento, recently organized, is called "Empresa Nacional de Electricidad" (National Electric Enterprise) and has an initial capital of $16,000,000 for a 90-year term with two series of shares; type "A" corresponding to 90% of the total which series is held by the Corporación de Fomento and represents the state's interest in this concern, and type "B" corresponding to the remaining 10% which has been offered for purchase by private investors.

This company is administered by a board of directors, who must be of Chilean birth, who have a three-year term, can be reelected, and do not necessarily have to be shareholders. There are seven members, of which six represent the type "A" shareholders; namely, the executive vice-president, the general manager, two directors of the Corporación de Fomento's board, the president of the Institute of Engineers of Chile, and the head of the Chilean Power Commission. The seventh member, representing the type "B" private shareholders, is a high official of an electrical distribution concern which ultimately will receive power supply from the Empresa Nacional de Electricidad.

Of the seven directors, five are engineers, including the executive vice-president and the general manager of the Corporación de Fomento. The general manager of the Empresa Nacional

de Electricidad is also an engineer.

This board has full control of the administration of the National Electric Enterprise the purpose of which is the generation, transmission and distribution of electrical energy, as well as the realization of the general plan of electrification of Chile to supply electric power to as large a number of people as possible at low rates.

The main aims of the company, as established in its by-laws, are (1) to generate, transmit and distribute, as well as to buy and sell electric energy; (2) to obtain all types of franchises; (3) to purchase any kind of property connected with the electric companies or electric installations, as well as shares, debentures or any other type of assets; (4) to study, build and operate any new generating plants, electric systems and lines; (5) to consummate any type of contracts on electrical energy; (6) to participate in any other company or cooperatives related to electrical activities; and (7) to develop any industrial, agricultural, commercial or financial plan, or otherwise investigate any activity which is considered advantageous to the company. In general, it aims to acquire, sell, or mortgage any type of goods, to contract any type of obligation, and to transact any type of business which is conducive to the development of this enterprise without limitation.

The board of directors nominates a general manager who is the administrative head of the company, and who can nominate the personnel in compliance with the rules and regulations approved by the board.

The earnings of the company will be distributed as follows: (a) to form a reserve equal to the capital; (b) to pay a preferred interest up to 7% on the type "B" shares; (c) to dispose of up to 30% of the earnings to form special funds; (d) to pay up to 7% interest on the type "A" shares; and (e) to pay any excess as an extra dividend to all the shares. Since the type "A" shares are owned by the Corporación de Fomento, the corresponding earnings will become a revolving fund for the subscription of additional capital.

It is thus believed possible to organize an efficient business enterprise, operated by a fully responsible board of directors who will seek to follow a national policy. That this enterprise has gained the confidence of private capital is indicated by the fact that the type "B" shares have been in great demand. This private quota of preferred stock should be regarded as debentures without mortgage or financial supervision of the debenture holders. The 7% interest rate is a usual industrial rate of interest in Chile.

The greater use of electricity generated by water redounds to the benefit of the national economy as a whole through the conservation of fuels and in the saving of international purchasing power which in the past was required to cover fuel importations, but which now can be destined to the importation of consumer goods. The utilization of the natural resources of the country through a national organization and for the benefit of the people will be the basis for their better enjoyment of life.

No progressive economic development on a sound business basis can be organized in a country such as Chile if there is not an ample supply of power to convert the natural raw materials into goods for the consumption by the people. The electrification plan which is being carried out in Chile is expected to promote a better understanding with the people of other countries who are ahead of Chile and to whom Chilean engineers have been looking for enlightenment to plan the program outlined above.

Reports and Comments

River Valley Planning in India: The Damodar*

PLANNED development of land and water resources on a regional scale by the Tennessee Valley Authority and the Bureau of Reclamation has caught the imagination of people and governments in all parts of the world. The force of TVA's example has been felt especially in India. It is a country of high birth rate and great pressure on the resource base, of primitive and soil-damaging agriculture, and of uncontrolled, destructive rivers. Conditions in many of that subcontinent's river valleys resemble those of the Tennessee. Publications of the Water Resources Committee of the National Resources Planning Board and its predecessors crowd bookshelves in Indian universities and government offices and have led their readers to consider a river valley as one unit for the exploration of its fullest and inter-related possibilities. This article reports the planning of project works in one Indian river basin and states an administrative problem facing all river valley planning and development in India.

Planning for the Damodar Valley

Bengal is a deltaic country, its flat plain the product of the Ganges, the Damodar, and the Brahmaputra. The Damodar valley, an area of 9,000 square miles, forms the country to the west of Calcutta, in population the second city of the British Empire. A live, alluvial river, the Damodar carries heavy charges of silt and is wide and shallow with steep slopes. The river bed is high and ever-building; a moderate rain will breach its banks. Efforts to strengthen the embankments promise no final solution. Calcutta port is shoaly and agricultural lands lying between the Damodar and the Hoogly, known to U. S. troops as malarial pastures, are subject to annual flood. In recent years, study of the Damodar has not been confined to the prevention of floods. As a result of the 1942-43 famine and the July-October 1943 flood, adoption of a general regional plan was urged. Although only the provinces of Bengal and Bihar were directly concerned, all of India shared in the interest generated by study of the Damodar.

Fortunately, a great amount of basic research had already been undertaken.[1] It was understood at the outset that the key to the problem was the distribution of rainfall which comes at intervals during the monsoon months.

Mean annual precipitation in the Damodar basin is 24 million acre-feet in normal years. Of this amount, 19 million acre-feet falls in the upper reaches, in Bihar Province, where the run-off is large, varying from 55 to 85 percent of the precipitation. In the lower valley, comprising the flat alluvial soil of Bengal, the run-off may be as low as 15 to 20 percent. About 9.5 million acre-feet reaches the Damodar and Barakar rivers in the approximate ratio of 3:2.

In addition to this geographic disbalance, the rainfall is unevenly distributed seasonally. During the five rainy months, from middle of June to November, the average flow is some 30,000 cusecs; for the remaining seven months the average is about 1,600 cusecs.

Beginning with the first engineering survey in 1863, detention of a large percentage of the total run-off by dams has been proposed in order to smooth off the fluctuations and attain an even flow for managed distribution throughout the valley during the entire year. Core of the constructive work lies in the erection of a series of dams in the upper Damodar and Barakar regions, and a series of barrages in the lower reaches for distribution of water for irrigation. (Diagram

* This article came to us from India where the author was presently serving with an OSS detachment in the South Eastern Asia Command, United States Army. Mr. Goodall is a graduate of the University of California and the University of Chicago. *Editor.*

[1] This description of the project's proposed construction works abstracts the findings and recommendations of the Bengal government, *Selections from the Records of the Bengal Government Relating to Damodar Floods and Embankments*, Vol. II (1919) and *Selections Relating to Damodar Flood Control Project*, Vol. IV (1919) and the resumé of M. N. Saha and K. Ray, "Planning for the Damodar Valley," *Science and Culture*, July 1944, pp. 20-33.

shows the plan for the dams.) Design of the project works is intended to meet minimum requirements for flood control, irrigation supply, power generation, and possibly also to make provision for navigation on at least a stretch of the river's length.[2] The river descends from a height of 2,000 feet at its source to 285 feet at Raniganj. Almost the whole of the descent can be utilized for the production of hydro-electric power if a number of storage dams are erected at suitable sites on the main rivers and their tributaries.

Indian government reports, supported by Professor Saha's survey, recommend the construction of dams on (1) the upper Damodar river and tributaries and (2) on the Barakar and its tributaries.

Dam Sites on the Damodar System

(1) *Parjori Site.* The most promising dam site on the upper Damodar is that found near the village of Parjori, 50 miles above the confluence of the Damodar and Barakar and 5 miles below the mouth of the Jamunia on the Damodar. This site commands a drainage basin of 3,000 square miles and includes all of the important tributaries except the Gowai river. The bed consists of thick layers of rock suitable for a dam foundation, sluices and spillways. One hundred and ten feet high, the proposed Parjori dam will have a storage capacity of 0.345 million acre-feet. Taking the average head as 60 feet for power production, the total energy poured down across the site is equivalent to about 200 million kwh.

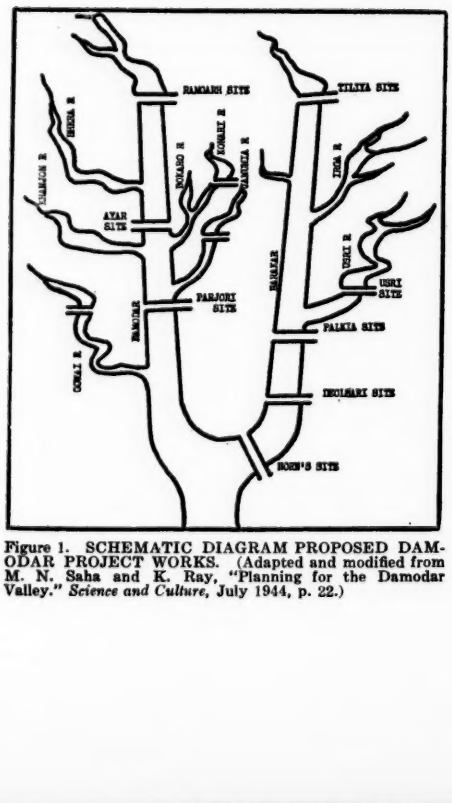

Figure 1. SCHEMATIC DIAGRAM PROPOSED DAMODAR PROJECT WORKS. (Adapted and modified from M. N. Saha and K. Ray, "Planning for the Damodar Valley." *Science and Culture,* July 1944, p. 22.)

(2) *Ayar Site.* About 17 miles from the Parjori site, there exists a dam site opposite the village of Ayar where there is a rocky rapid of three to four feet in height. At the head of this rapid there is hard gneiss rock exposed right across the bed, a small hill on the right bank and a left bank slope of approximately one-in-fifty over 100 feet above the bed. A dam 100 feet high would be about 4,000 feet long at crest level and the basin above the dam, 2,000 square miles.

This site would be suitable for a power dam provided a larger storage and regulating reservoir is built above it. There is such a site near Ramgarh, 15 miles upstream, and it is also possible to control the headwaters at Bhera Nadi by a dam which would feed the main river above the Ayar site. Assuming a 50 percent run-off of the 43 inches of rainfall, and 60 feet available head, energy handled by the proposed Ayar dam would amount to some 133 million kwh units a year.

(3) *Ramgarh Site.* Ramgarh, the uppermost site available for the construction of a dam, controls a basin area of nearly 1,000 square miles. Water in the valley amounts to about 1.1 million acre-feet in the monsoons; and, assuming a head of 50 feet, the total energy dissipated by the river during this period is some 55 million kwh units.

(4) *Control of the Tributary Rivers.* Possibilities of headwaters' control in the tributaries of the Damodar have not been properly investigated. The following affluents are of importance:

Tributary River	*Drainage Area (square miles)*
Jamunia	350
Konari	730
Gowai	450
TOTAL	1,530

[2] There are references in the old records of the Calcutta Port Commission that the Damodar was navigable from its mouth to the Raniganj area. In prerailway days, coal was transported to Calcutta from Raniganj in barges. At the present time the river stage is so low that during dry months navigation is impossible while during monsoons the stream is too furious to permit safe navigation.

On further survey the steep slopes and deep valleys of the Jamunia, Konari, and Gowai might prove useful for both flood control and power generation.

Dam Sites in the Barakar Basin

The Barakar is the largest tributary of the Damodar and contributes about 40 percent of the total flow in the lower Damodar.

(*1*) *Horn's Site.* After the disastrous flood of 1900, D. B. Horn, India government superintending engineer, selected a dam site on the Barakar at a place just above its confluence with the Damodar near the village of Durgapur. Slope of the bed is not more than 6 feet per mile and the gorge is fairly narrow. A masonry dam 70 feet high will back its waters about 12 miles, impounding nearly 0.2 million acre-feet. This site controls practically the whole of the Barakar basin; the amount of water running through the Barakar annually is some 3.8 million acre-feet and all of this passes Horn's site. Taking the available head as 35 feet the power resources at the dam site total about 133 million kwh units.

(*2*) *Deolbari Site.* Twenty-two miles above Horn's site is another dam site near the village of Deolbari. At this point the right bank of the Barakar rises steeply out of the river bed, and the left bank attains a height of over 90 feet at a distance of 3,200 feet from the river. Slope of the river bed is about seven feet per mile. A dam 130 feet high can be constructed and with 3.2 million acre-feet passing down the site at an average head of 50 feet, the total estimated energy reaches 160 million kwh units.

(*3*) *Palkia and Balpaharia Sites.* The best dam site on the Barakar is near the village of Palkia about 16 miles above Deolbari or some 40 miles above the junction of the Barakar with the Damodar. Heading up water in the Usri river which joins the Barakar at this site, a dam 125 feet high is proposed. A basin area of 2,000 square miles with monsoon resources of about 2.3 million acre-feet of flow water is controlled by the site. Storage capacity of the reservoir would be about 0.46 million acre-feet. Taking the head to be 60 feet, the energy handled by the river is 138 million kwh units during the monsoon. There is a site at Balpahari about 3 miles down the river which is in certain respects better than Palkia, and a choice has to be made between these two sites.

(*4*) *Tiliya Site.* This is the uppermost dam site on the Barakar, some 50 miles above the Usri junction, controlling 270 square miles of catchment area. Near the village of Tiliya, two ranges of low hills hem in the river for about 7¾ miles and approach within 1,600 feet of one another. Slope of the bed is only 4.13 feet per mile; a dam of at least 130 feet could be built which would set back water about 31½ miles, furnishing 0.25 acre-feet. With a head of 60 feet, power generation would approximate 15 million kwh.

TABLE I. TOTAL ENERGY RESOURCES OF THE UPPER DAMODAR OUT OF MONSOON WATERS

Parjori site	200 million kwh
Ayar	133
Ramgarh	55
Tributary sites (*approx.*)	100
	488 million kwh

(*5*) *Usri Site.* An important tributary to the Barakar, the Usri controls a drainage basin of 280 square miles with run-off waters of about 0.23 million acre-feet during the entire monsoon. The river has a steep gradient so that a number of dams may be planned to utilize the maximum advantage of the drop of the river, just as in the case of the Occoee, a tributary of the Tennessee. With the help of these dams on the Damodar and Barakar, total energy resources of 941 million kwh units per year are expected, of which 850 million are estimated as utilizable.

TABLE II. TOTAL ENERGY RESOURCES OF THE BARAKAR OUT OF MONSOON WATERS

Horn's site	133 million kwh
Deolbari	160
Palkia	138
Tiliya	15
Usri	7
	453 million kwh

From the standpoint of water management and control, if all the above-mentioned dams are constructed, about 30 percent of the total run-off can be stored.

Costs: Sale of Power

Accurate figures on construction costs are not ready. Cost of the Parjori, Palkia, and Usri works is estimated at $30,000,000. Rough estimate places cost of all the dams between $85,000,000 and $100,000,000. A direct income of at least $6,000,000 annually is estimated from power sale alone. Indirect benefits of the project cannot be estimated.

Use of the Power

India has so far developed only 9 units of electrical energy per capita per year. By comparison, the U. S. figure is 1500, the Mexican 180. Investigation shows immediate need for Damodar valley power in the Jharia coal mines and cities; in exploitation of the rich bauxite deposits of Cheta-Nagpur and other districts of Bihar for aluminum; and for production of synthetic ammonia, calcium nitrate, and calcium carbide.

Treatment of the Upper Drainage Basin Areas

The Cheta-Nagpur plateau from which the Damodar and its tributaries flow is mostly bare and denuded. About 3,500 square miles of the upper Damodar reaches are wasteland or covered with meagre forests, while 2,000 square miles are under cultivation. In the north Barakar basin there are extensive areas where all forests have entirely disappeared by repeated cutting, firing and uncontrolled grazing.

TABLE III. STORAGE CAPACITIES AND DRAINAGE BASINS

Dam Site	Storage Capacity (million acre ft.)	Basin Area (square mi.)
Parjori	0.35	3,000
Ayar	0.10	2,000
Ramgarh	0.20	1,000
Three tributaries	0.30*	1,530
Horn's site	0.20	2,500
Deolbari	0.39	2,250
Palkia	0.46	2,000
Tiliya	0.15*	280
Usri	0.12	270
	2.27	14,830

*Approximate figures.

The bare areas wash off readily and the rivers carry a heavy load of silt and sand, deteriorating the channels of flow and forming sand bars near the rivers' mouth. While afforestation and land treatment are needed for purposes of soil conservation, for improvement of the channel, and for lengthening the life of the dams, it must not be assumed that such measures can, alone, prevent the catastrophic floods of the type seen in the Damodar valley.

The Politics of Regional Planning in India

Creation of a Damodar Valley Authority was urged by Dr. B. A. Ambedkar, India government member for Labour, who presided over a conference of representatives of the Central, Bengal, and Bihar governments in January 1945:

"The Government of India has very much in mind the Tennessee Valley Authority operating in the United States. They are studying the scheme and feel that something along that line can be done in India if the Provinces offer their cooperation and agree to override the provincial barrier which has held up so much of their progress and prosperity. The Damodar river is the first project along this line."[3]

The Central government lacks the constitutional authority to create a DVA. According to List II of the Government of India Act of 1935, the provincial legislative list (defining the functions of provincial governments) includes (9) water, that is to say water supplies, irrigation and canals, drainage and embankments, water storage and water power, (20) inland waterways and traffic thereon. List III, containing entries under the concurrent legislative list, includes (32) shipping and navigation on inland waterways as regards mechanically propelled vessels. Irrigation and electric power, therefore, are provincial subjects, i.e., the provinces are responsible for their development. Projects are prepared in the provinces and the Central government has in general no direct concern with these. A DVA, therefore, can be created only if the Central government and the two governments of Bihar and Bengal agree to do so. For the two provincial governments it means a surrender of authority invested under the Government of India Act of 1935 and such cession is unlikely.

[3] *Hindusthan Standard* (Calcutta), January 17, 1945.

Neither of the provincial governments possess the technical resources needed to plan for the region. That they can develop in compact a cooperative technique for planning and development is improbable. This situation is not peculiar to the Damodar, for there is scarcely an Indian river valley confined to the limits of one single province or one single Indian state. By making water resources largely a provincial subject, the Government of India Act of 1935 has created a serious hindrance to the orderly development of India's natural resources.

Some progress, however, in the revision of Indian land and water policy is promised as a result of the organization in the Spring of 1945 of two planning agencies, the Central Technical Power Board and the Central Waterways, Irrigation, and Navigation Commission. These agencies are to conduct surveys in consultation with provincial and state governments, and advise the Central government regarding water rights and interprovincial disputes, suggesting planes of agreement. The Commission will pay particular attention to the possibilities of development in regions where several interests are affected, e.g., valley development plans on rivers passing through more than one province. With similar objectives, it is proposed to set up a central land utilization council.

The Central Board of Irrigation is a separate organization on which the provinces are represented. Its functions are technical, particularly in connection with the coordination of research, the issuance of technical publications, and the provision of a technical information bureau for the use of the various provinces and states which contribute to its support.

Natural regions and political-administrative districts do not coincide. Before a river valley can be developed fully in all its uses, cooperative arrangements must be organized and maintained among separate administrations, i.e., provinces and states, as well as among the various technical departments. This problem has been met by the TVA and the Bureau of Reclamation; it must be solved in India and elsewhere as well—on the Danube which flows through nation-states, on the Murray in Australia by the Victoria, South Australia, and New South Wales governments, to cite but two leading illustrations.

MERRILL R. GOODALL
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Urban Fringe Studies of Two Wisconsin Cities: A Summary*

THE study herein summarized consists of two parts: (1) A study of the urban fringe of Janesville, Wisconsin and (2) a study of the urban fringe of Madison, Wisconsin. The first named is a comprehensive report of the whole urban fringe area. The second is of a segment of the Madison fringe only and was undertaken to serve as a check and control of the findings of the Janesville study.

The objective of this work was an analysis to delineate the patterns of human action which result from various phases of urban unrest; to indicate the manner in which families subject to such unrest have tried to make an adjustment in the cities' fringes and finally to point up the general problems which the planner faces in handling this trend of one city.

Findings of the Janesville, Wisconsin Study

Janesville had a population of 22,922 at the time of the study in 1941. The major industries of Janesville normally are somewhat seasonal in character, and the community seems to have grown from an agricultural trading center to its present size largely since 1917, by the addition of industrial establishments—a General Motors assembly plant and the expansion of the Parker Pen Company. The population data for this area and the townships adjoining since 1900 reveal that the city grew 30% in population during the decade 1910 to 1920, while the townships lost 3% during that

* Between 1940 and 1943 the author conducted studies of the urban fringes of Janesville and Madison, Wisconsin. Some concepts developed in that work were published in the May 1942 issue of this *Journal* under the title, "Elements in the Urban-Fringe Pattern." When the author entered the armed forces in 1943 he had just completed two typewritten manuscripts on these studies. The present article is a summary of these manuscripts and was prepared for publication by Victor Bringe of the Urban Development Division of the National Housing Agency.

period; that the city and townships both grew 17% and 18% in population between 1920 and 1930 and that between 1930 and 1940 the city's population rose by 6% while that of the townships rose 19%. Thus in the record to date the major influences at work are the urbanizing effects of the First World War and the disbursing effect of the depression, with perhaps undertones of urbanization throughout the two periods.

The study proceeded by obtaining a picture of (1) each fringe family's present living conditions in terms of housing, size of family, income, expenses, and use of land; (2) the way in which the family had settled, its present tenure and, if owners, how it had assumed the property and financed it; and (3) the condition leading to the movement into the fringe, i.e., previous residence history, background of husband and wife before marriage, previous employment record of the main wage earner, and the reported reason for the move. The divisions into which the analysis was divided are basically keyed to the principal circumstances of the migration.

Although the extremes of the business cycle seem to have provided the greatest stimulus for fringe growth, yet a longer term factor underlying it can be observed which was set in motion by the automobile and the opportunities it provided for disbursed residence.

The total cases of fringe settlement recorded for Janesville are 595. These are classified in six major categories and described separately. A running commentary on the high lights of each category follows (the number of cases in each category is given after the heading):

I. *Families under Strong Economic Pressure:* 94

A. *Economic Distress and Financial Reverse.* (40) This group is composed of the extremely disadvantaged families: those whose main wage earner lost his job, relief families, families who lost savings or sub-

COMPARATIVE MIGRATION DIVISIONS AND SUBGROUPS, MADISON AND JANESVILLE, WISCONSIN 1941–1942

MIGRATION GROUPING	Janesville		Madison	
	Case Totals	Per Cent	Case Totals	Per Cent
Total Families	595	100	377	100
I. Strong economic pressure	94	15.8	40	10.6
II. Lower rents and taxes	84	14.1	57	15.2
A. Low rents and taxes	45	7.6	37	9.9
B. Low rent through ownership	39	6.5	20	5.3
III. Area attraction	52	8.8	25	6.6
IV. Environmental change	133	22.4	63	16.7
A. Anti-urban	51	8.6	25	6.6
B. Rearing of children	32	5.4	23	6.1
C. Hobby gardens and stock	22	3.7	4	1.1
D. Retirement and semi-retirement	14	2.35	5	1.3
E. Health Seeking	14	2.35	6	1.6
V. Seeking a home of own	96	16.1	112	29.7
A. Home owners (long-time plan)	46	7.7	39	10.3
B. Young married couples	50	8.4	73	19.4
VI. Urban employed and retired farm families	131	22.0	80	21.2
A. Economic influences	38	6.4	34	9.0
B. Environment and property inheritance	66	11.1	33	8.7
C. Business and job attractions	26	4.4	13	3.5
D. Miscellaneous	1			
VII. Miscellaneous	5	0.8		

sist on a small pension. As the heading indicates, these families migrated to the fringe primarily to make an adjustment both to low income and to their inability to cope with city life. They are characterized by ill health, low morale, and low income status at the time of move. Income status has improved somewhat since the move. Little subsistence or farming activity to supplement income has been engaged in by this group, perhaps because of low morale and lack of funds or credit. These families tend to settle in the low income and blighted fringe areas. Their fringe housing is poor, rents are low, utility expense is low, and since they are located in areas close to the city transport cost is low.

B. *Near-marginal Circumstances and Industrial Lay-off.* (54) In response to the chronic lay-offs in local industry it became necessary for some families to reduce the food and housing expenditures in their budgets. This they attempted to do by obtaining a home in the fringe. Many of them settled in the rural fringe outside of existing subdivisions. The heaviest movement has been since 1936. As a whole these families are fairly stable economically and fairly young in age. The character of the housing they have chosen is partly the large, old farm houses in the rural parts of the fringe and new, small and inexpensive dwellings in the subdivisions closer to the city. Their utility costs are about equal to city charges, but the higher transportation charges eliminate in some cases such rent savings as might be achieved by the move. To some extent they are dissatisfied with their housing standards, the rising taxes and the distance from schools, but on the whole they are reconciled to these conditions.

II. *Families Seeking Lower Rents and Taxes:* 84

A. *Rent and Tax Adjustments.* (45) Although this group expressed primarily a desire for lower rents and taxes, subsidiary motives for the move in the form of a desire for a more wholesome environment or a rural background on the part of either husband or wife contributed to the motivation. This group generally has better housing than before the move. But because there are a number of young families among them one-third of the dwellings are overcrowded. They possess fewer amenities, and transportation costs to some extent offset rent and tax savings.

B. *Low Rent Through Home Ownership.* (39) Additional causes for the move in this category include the small town or rural background factor mentioned above. Many of these families are long established; two-thirds of them built their own homes. The housing for the group is fair. In many cases the homes lack sewer and water connections or central heating. The economic advantage achieved by the move is very small. Generally this group has less education and skill than the rent and tax adjustment group.

III. *Families Influenced by Locational Attractions:* 52

A. *Inducements of Relatives or Friends.* A number of special circumstances such as the receipt of an inheritance, a special rate made by friends or relatives, the desire to be near friends or parents, or the necessity of caring for relatives had induced the move. In many cases the husband or wife has a farm background.

B. *Local Economic Interests.* This group is located in the fringe to carry on part or fulltime business in establishments along highways for real estate or building interests or for part-time farming, trucking, garage or junk dealer activity. It includes some substantial and well established families as well as a marginal group which can not adjust to regular employment in the city.

IV. *Families Seeking a Change in Environment:* 133

The motives which encouraged these families that settled in the fringe are a combination of positive and negative forces.

A. *Anti-urban Attitudes.* (51) This is the largest category making up 51 of the total of 133 cases in the change and environment classification. They find city life distasteful. Many came from farm backgrounds, over 50% are childless, they have relatively satisfactory income and are drawn from *good residential sections.* Their movement occurred largely after 1940. As would be expected in view of their income status and the date of the move, they possess homes with a good many of the modern conveniences.

B. *Child-rearing.* (32) These families express as a primary motive the desire to raise children away from the heavy traffic, overcrowding, and unhealthful environment of city life. They have settled off of the main highways in pursuit of this objective. They came from both the central and intermediate city districts.

C. *Hobby Gardens and Stock.* (22) The wish to indulge a hobby such as gardening has drawn this group into the fringe; for the most part they are composed of mature families in sound, financial circumstances who can afford large houses and high utility and transportation charges.

D. *Retirement and Semi-Retirement.* (14) All sections of the city contributed to this group. They have sought secluded quiet and scenic sites and live economically in line with their modest incomes.

E. *Health-seeking.* (14) In order to rectify specific irritations of health, this group sought for locations which would provide the fresh air and quiet necessary to recovery or perhaps a one-floor home to eliminate undue physical exertion. They are drawn from all income groups.

V. *Families Seeking a Home of Their Own:* 96

Few rental properties are available in the fringe and the rather high proportion of ownership found in such areas does not necessarily indicate that all those who own homes in the area do so from choice. In many cases it is a necessity owing to the lack of available rental properties. The families specified in this category, however, definitely placed the desire for home ownership to the fore as the major motive in the move to the fringe.

A. *Delayed Ownership.* (46) In most cases these families had possessed an unsatisfied desire for home ownership for some years and had saved for the down-payment which would make it possible. About 50% of the group constructed their own residences. Their housing is sound and living costs are moderate.

B. *The Newly Married.* (50) Young families with or without children were attracted to the fringe by the low prices for lots and homes, the desire for privacy, and the fulfillment-of-an-ideal concept. Incomes are good, reflecting the earning power of these families, and they have settled in river colonies or in moderate income areas. There is little evidence of subsistence gardening or farming among this group.

VI. *Urban Employed and Retired Farm Families:* 131

This category differs from the previous groups in that these people have rural backgrounds and have resisted movement into the city proper. In a sense this group could be subdivided into all of the major categories already established, economic and environmental. Some have insufficient income for city life by reason of retirement status or low earning capacity. Others are held in the fringe by the attraction of friends or relatives, the possession of the homestead or inheritance prospect and some merely by a strong predisposition for a rural atmosphere. They are of all economic circumstances; the important or significant point is their resistance to the city either for economic, social or personal reasons.

Planning Implications and Adjustments

Urban discontents can now be resolved to some extent by auto transport. At the same time two-thirds of the fringe development is in the path of future city expansion, and that expansion will impose severe financial and personal losses upon the groups which have settled there for varying reasons. The fringe areas are largely similar in layout to the city areas and consequently provide no real barriers against the repetition of undesirable city conditions when more intense development occurs. The problem of the planner then is to meet the needs of these fringe dwellers and to stabilize the area from effects of the growing city. A large majority of the fringe population is urban in origin and may be expected to be somewhat sympathetic to governmental measures aimed at tackling the planning problem. The remaining rural origin group may be apathetic in its attitude toward the planning process. Perhaps permanent fringe areas might be included as part of an urban land reserve with sliding tax arrangements, larger acreages and agricultural zoning to preserve the features which fringe dwellers sought in their migrations from the city. If such special conditions are not provided, the problems presented by the fringe dwellers will not be met and city expansion may be followed by a repetition of the present developments.

The major problems of the fringe are as follows: (1) high cost of transportation may offset other savings; (2) difficult utility extension problems and no building restrictions; (3) equipment, government and public finances of area are inadequate for a developing urban community; (4) the outward spread of urbanization will rob these fringe-dwellers of the goals achieved by the move; (5) fringe design repeats the mistakes of city design; and (6) various migration types must be considered in dealing with the fringe-stabilization problem.

Solutions or suggestions for meeting these problems include: (1) "filling in" already subdivided land by reducing the cost of land and taxes, and by use of the *land reserve* principle; (2) increase of lower rental housing would decrease dispersion to fringe, and economical and well-planned city government would mean lower taxes and utility costs in the city; (3) greater livability is needed in city neighborhoods, free from noise, dirt, crowding, traffic and lack of vegetation, for the movement to periphery is from *residential* areas as well as from central city areas; (4) by making the city a better place in which to live, the 20% of fringe families that are rural in origin may be attracted into the city; and finally, (5) both city and central city must be replanned.

Findings of the Madison Study

A study of the area adjacent to Madison, Wisconsin revealed that the principal migration patterns and their quantitative proportions are very similar to the Janesville findings. There are several variations. The proportion of Janesville families in the environmental change groups exceeds that of Madison by 5%. This difference is accounted for by the fact that the area covered in Janesville represented more rural fringe areas.

The Madison home-seeking group is larger than that of Janesville. This is explained by the extremely low vacancy-ratio in Madison and a shortage of reasonably priced apartments in decent residential areas which induces young couples to establish their first home in the Madison fringe. Finally, the economic pressure group in Janesville is 5% larger than in the Madison area. It appears probable that the predominantly seasonal characteristics of Janesville industry account for this fact. Industry in Madison is fairly stable, and the wage differential in its unionized groups is more favorable than that of Janesville.

On the basis of this comparison between the two localities one can say: (1) that city dispersion and farm-to-city fringe migration can be described by fairly constant patterns of economic pressure, desire for environment change, home establishment desires, environmental ties, and business attractions; and (2) that substantial changes can take place in the quantitative proportions of these migration forms as between one city and another depending on local economic, political, geographical and social factors.

Comments on Survey Technique

In the beginning there were two basic purposes or questions toward which this study was directed. One of the purposes was at least to determine the superficial reasons for the existence and growth of urban-fringe areas surrounding American cities. An answer to this question was attempted in the foregoing report. A second objective was to investigate the field techniques in urban-fringe research best adapted to groups of semi-skilled research personnel such as were employed by the Works Projects Administration. The purpose of the following remarks is to formulate the conclusions reached as to what these "appropriate" techniques might be.

Field Enumeration Form. Use of the familiar field interview form was considered a basic research tool from the first. To find processes of human action it is necessary at some point in an investigation to talk with the persons who are carrying out the actions. Consequently, a field interview form for this survey was devised on the following hypotheses: (1) that new settlement patterns have their roots in the previous environment of the family in question; (2) that shifting economic status and attraction also influence the movements of families; (3) that promotion sales pressures and fashion trends are disturbers of a family's status quo; (4) that fluctuations in family size lead to movements into other residence areas; and finally, (5) that ideas of a better or a different life ultimately lead to rather drastic changes in types of residence areas. All these hypotheses were reflected in the schedule under Sections IV, VII, VIII, IX and X. (See schedule.)

SCHEDULE
Urban-Fringe Survey

..... Wisconsin

Township ..... Section No. .....

Plat No. ..... Block No. ..... Lot No. ..... Parcel No. .....

Enumerator ..... Date .....

Structure No. .....

I. Land Use:

A. Parcel Dimensions .... Sq. Ft.

B. Frontages:

	Surface
1.	..... Ft. .....
2.	..... Ft. .....
3.	..... Ft. .....
Street Total	..... Ft. Other ..... Ft.

C. Structures:

1.	..... Sq. Ft.
2.	.....
3.	.....
4.	.....
5.	.....

D. Detailed Description of Land Use:

.....

.....

.....

.....

E. Summary:

1. Total No. Of Residential Structures ....
   Area ....
2. Total No. Of Non-Residential Structures ....
   Area ....
3. Total No. Of Structures ....
   Area ....

II. Structure:

A. Type: .....

.....

.....

B. Conversions or Remodeling, Describe:

.....

.....

C. Exterior Material:

.....

D. Year Built:

.....

E. Stories: .....

F. Foundation:

1. Slab ☐
2. Piling ☐
3. Shell ☐
4. Full Base ☐

G. Condition:

Describe "Bad" Housing: .....

.....

.....

.....

III. Dwelling Unit:

A. Heat and Fuel:

1. Central Heat .....
2. None Installed: .....

.....

3. Other Installed: .....

.....

B. Cooking and Light:

1. Electricity .....
2. Gas .....
3. Other .....

C. Rooms:

1. Total .....
2. Bedrooms .....
3. Rental .....
4. Winter Use .....

D. Bathing Facilities:

1. Type .....

.....

E. Toilet Facilities:

1. Flush Toilet ☐
2. Chemical Toilet ☐
3. Privy ☐

F. Sewage Disposal:

1. Public Sewer ☐
2. Septic Tank ☐
3. Cess Pool ☐
4. Privy Vault ☐ Pit ☐

G. Tenure:

1. Owner ☐
2. Tenant ☐
3. Vacant ☐

H. Rent:

Monthly $.....

Items Included: .....

.....

.....

I. Water:

Source:

1. Public Main ☐
2. Well ☐

Availability:

1. Carried ☐
2. Inside Pressure ☐
3. Inside Hand ☐
4. Hot Run: Yes ☐ No ☐

Sanitation:

1. Position:
   a. Well .....
   b. Privy .....
2. Well Depth .....

J. Miscellaneous:

1. Refrigeration (Type) .....

.....

2. Laundry .....
3. Garbage Disposal .....

.....

IV. Buying The Land And Home:

A. The Land (If Bought Separately):

1. From Whom Purchased?
   a. Subdivision Co. ☐
   b. Farmer ☐
   c. Financial Inst. ☐
   d. Other .....

   .....

   .....

2. Terms Of Purchase:
   a. Purchase Price: $ .....
   b. Amt. Paid Down $ .....
   c. Terms Of Payment

   .....

   .....

B. The Home:

1. From Whom Purchased?
   a. Contractor ☐
   b. Former Occupant ☐
   c. Subdivider ☐
   d. Financial Inst. ☐
   e. Own Plan ☐
   f. Other .....

   .....

2. Terms Of Purchase:
   a. Purchase Price: $ .....
   b. Amt. Paid Down $ .....
   c. Terms Of Payment

   .....
3. Assessed Value:
   Land $.....
   Impr. $.....
   Total $.....

C. Percent Of Total Labor Performed By Owner In Building Home: .....%

D. Financial Status:

1. Balance Due:
   a. Mortgage $.....
   b. Land Contract $ .....
2. Holder Of Loan:

   .....

   .....

E. Number Of Other Lots ..... Or Acreage Parcels

.....

Held In Fringe?

F. Special Inducements Offered In Purchase:

.....

.....

.....

.....

Urban-Fringe Survey (con't.)

V. Family Budget:

1. Food (Per Month) $ .....
2. Heat (Per Year) $ .....
3. Cooking (Month) $ .....
4. Light (Month) $ .....
5. Water $ .....
6. Bus (Week) $ .....
7. Auto Mileage (Wk) .....
8. Car Payments (Mo.) $ .....
9. Balance Due $ .....
10. Make & Year Of Car .....

New ☐ 2nd ☐

VI. Community Contacts:

A. What Areas Do You Patronize Most Frequently For:

		Frequency Of Trips
1. Groceries	.....	.....
2. Drug Store Items	.....	.....
3. Church	.....	.....

B. Principal Social Recreations And Area Patronized:

1. ....
2. ....
3. ....

C. Do You Attend Town Meetings: Yes ☐ No ☐

If "No", Reason:

.....

.....

VII. Family Composition:

Relation	Age	Year of Marriage	Background Farm-City	School Year Completed

VIII. Settling:

A. Date Of Move To This Address: ....

B. Moves:

Addresses	Yrs.	Ten.	Type	R/P	Rent	RW	FT	BT

C. Residences During Marriage, Previous To Above, Principally ☐ Fringe ☐ Farm ☐ Other .....

XI. Getting A Living:

Relation	Occupation: Firm: Date Employed	Wage or Salary	Other Sources	Amt.	Total Income	Transport Type	Transport Time

B. Employment Record:

Years	Occupation	Place
1930-31	.....	.....
1932-33	.....	.....
1934-35	.....	.....
1936-37	.....	.....
1938-39	.....	.....
1940-41	.....	.....

C. Income At Time Of Move To This Address: $.....

Occupation .....

D. Approximate Annual Income From Garden $.....

X. Settling:

What conditions, specifically, led you to choose an address in the suburban area? Why here rather than in some other part of the suburbs?

B. Do You Find Either Your House, The Neighborhood, Or Your General Location Undesirable Or Disappointing In Any Way?

(Specify): .....

C. Have Any Of Your Neighbors Moved Away In Recent Years? Yes ☐ No ☐

☐ Other ..... If Madison, Names Of Families: .....

In order to estimate the present condition and adjustments of these families, and to examine the degree to which they had attained their goals on migrating, data were collected on their use of the land, their housing, occupations and incomes, operating budgets, and community contacts. (Sections I, II, III, V, VI, IX and XB.)

It was recognized that interviews aimed at gaining information on relatively intangible concepts could be conducted successfully only by skilled personnel. Since this personnel was not at hand it was necessary to construct a field schedule more detailed than otherwise might be required. Undoubtedly by freezing some basic hypothetical questions into a rigid but easily handled form, some pertinent data were lost because of case variability. However, through a long trial and error period, the form was developed to a point where the data leakage appeared to be at a minimum. Throughout the evolution of the schedule a free discussion section was carried which was intended to include the personal replies and migration explanations as given by the individual householder. As the enumerator became more skilled he could cross-check the story given him with the preceding routine sections on family background and earnings.

As constituted, the field form can be employed with minor changes in any fringe area. However, before being used again, on a large scale, revisions are recommended in Sections IV-C through F, VIII-B, and IX-B.

Field Personnel Organization. While no research is better than its hypotheses, it can be distorted by faulty field organization and control. In the present study the difficulties of ordinary field survey procedures were vastly complicated by the ramifications of the basic questions. To keep the study "on the track" and yet, at the same time, catch the variations which might redirect some portion of the hypothesis, some rather unique measures of field control were needed.

The organizational plan of the field unit or "squad" is simple. It was found that a group of four enumerators with a squad leader and a part-time field editor brought good results. Larger squads forced the production of schedules to a point where a close check could not be kept efficiently on their quality. On the other hand a smaller unit contributed to waste motion on the part of both leader and editor.

Duties of the squad leader included the immediate direction of volume, distribution, and routing of the interviews to be made by the individual enumerators. He assisted the enumerator with all technical and other difficulties in connection with his interviews. He handled problem interviews himself and conferred with the part-time field editor in the review of schedules.

The part-time field editor acted as liaison representative between the research office and the enumerators. Twice a day the field editor contacted the squad and checked thoroughly with each enumerator in turn the background and peculiarities of the interviews he had taken up to that point. The purpose of this check was, of course, to keep the interviewer on the alert for variables in his different cases and to bring before the office research staff survey trends of technical defects which might alter either the procedure or the hypotheses. In some cases the check of the field editor resulted in a re-interview for more complete facts. When he completed his edit of one squad he moved on to the next.

One of the most important relations of the office to the field squad arises in the need for a constant reiteration of the basic hypothesis. It has been found advisable to make brief mention of the basic ideas of the survey to the squad each morning so that the guiding thread of the investigation is never lost. At least once a week a more elaborate discussion should be held with the field units on the ideas and progress of the survey. Close-knit operation of this sort with a sound and progressive understanding of project goals insures a more reliable result.

Interviewing of Officials. In a research survey of this type it is necessary to interview local township and county officials of every grade as well as real estate developers and land speculators. After a short period of experimentation it was deemed inadvisable to entrust interviews of this sort to project personnel. Too many variables entered into each situation for any but the most general interview form. Moreover, an elementary background in local government, taxation, and land economics is a minimum requirement before an interview of this type can yield anything of value to the project. It was decided, therefore, to leave contacts of this sort to the project director or a highly qualified assistant.

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Limiting Factors in Erosion Control Demonstrations

"SOIL erosion" receives the blame for a multitude of problems. Some of these problems are purely financial, but many of them have broader significance because they affect the whole varied life of the community. Soil losses are usually reflected in terms of dollars and cents because any family which continues to live on a farm subject to any considerable amount of erosion must suffer either a loss of money income or an increase in the expenses necessary to continue farming operations. Financial problems, in other words, are often thought of simply as problems the dimensions of which can be weighed and measured.

The community problems which emerge as farm income is reduced cannot be so readily expressed in monetary units, yet the failure to work out a proper solution to these problems may be detrimental not only to the educational and social activities of the individual members of the family, but it may also result in a lowered moral tone for the whole community. In fact, the most significant loss may not be that of money income —serious as that is. When families lose their incentives for development then their personal and family self-respect, ambition, and pride disappear also. A community in these circumstances becomes a most undesirable place in which to live. If the loss of our soil has such disastrous effects not only upon the individual farms but also upon the rural community, why have farmers let their soils slip away year after year?

There is a general inclination to criticize people who in the past carried on a method of farming which encouraged soil erosion and to condemn them for not taking more active steps to retard the forces of erosion which were surely destroying the very basis of their living. But is it known why farmers have permitted excessive soil losses to continue? Can an explanation be made in terms of the every-day problems which these farmers have to meet?

It should be remembered that until very recently the attitude of official America as well as of the man on the street was that the soils of this country were inexhaustible. Free land, abundant production, and flooded markets strikingly told the story of the vastness of this "limitless resource." Why, then, should individual farm families whose first interest centered around the necessity of making a living from the farm, have realized the ultimate seriousness of the loss of soil from their farms? The living of farm families had to come from the soils. No matter how much it may have distressed them to see the darker surface soil disappear, exposing the lighter colored sub-soil, and no matter how amazed they may have been to see narrow ribbons of erosion develop into gullies, what could they have done about it?

They have had to get the best living they could out of the farm each year and to hope that some soil would be left. Even if they were conscious of soil losses, they were not conscious of effective means of controlling erosion. Information was not available then as to how both the soil and a living income could be maintained. In fact that is one of the problems which faces soil conservationists today. Is that not what the Soil Conservation Service is attempting to demonstrate: that soil can be kept from washing while farm families can also make living incomes?

Another postulate, possibly unformulated in the minds of the administrators is, or was in the early thinking on the subject, that soil erosion control measures actually would either add to the cost of farm operation or would reduce farm income. For this reason there was justification during the early years of the work for the government to give financial aid to farmers who made changes to hold the soil. The government was justified in contributing to the cost of an erosion project to the extent that the costs of farm operation were increased or farm incomes were reduced, especially if the farmers were not in position to do it for themselves. Later studies have shown that, by and large, soil erosion control programs can be adopted by individual farmers without greatly reducing income or adding to expenses. In fact, the longer-time justification of the program is in the greater net farm incomes which will be realized gradually as soil conditions become more favorable for crop production. In contrast, the alternative is no farm income and abandoned farm land.

The field of farm management has a definite responsibility in making demonstrations of this sort. It must devise systems of

farming wherein individual farm incomes can be increased; but this program may be at least partly independent of soil erosion control practices. In other words, the premise of the farm management specialist is that most eroded farms are not organized or managed so as to make for the largest incomes year after year. It is thus assumed that if changes were made in the organization of the farm or its practical management, larger net farm incomes would follow.

The adoption of soil erosion control practices, however, may change the farm set-up either by changing the labor requirements, the costs of operation, or the proportions of the different crops grown; and these must in turn have some effect upon the income possibilities of the farm. It is the duty of farm management personnel to determine through research how these changes affect farm income. It is also their function to judge the best organization and practices on those farms which have adopted certain specified soil erosion control practices. These suggested changes in farm organization must take into consideration the land use and soil management changes recommended by the soil conservation technicians; but there is no reason why a good farm management program for any farm should not include changes that will increase the income, whether or not the change is necessitated by the adoption of a soil erosion control practice.

Nevertheless, this very procedure may greatly increase the problem of determining the effect of the adoption of the soil conserving practices upon the organization and income of the farm. Frequently, better farm management practices follow, or are identical with, recognized soil conserving practices. For example, a shift from a crop which produces a small amount of feed per acre (where crop land is limited) to one which produces more feed is usually considered good farming practice. Where a farmer needs to produce more dairy feed, a shift from small grains to clover-and-timothy, or occasionally from corn to alfalfa, will increase the total feed available without a proportionate increase in expenses. Such increases in hay acreage have also been recommended frequently as a desirable soil erosion control practice. The Soil Conservation technicians, however, properly insist that the land taken out of corn or small grains should be on the steeper slopes. Farm management specialists up to the present time have paid little attention to the location of the fields which grew specific crops. Their interest was with the quantities produced rather than with the lay of the land upon which the crops were grown. They are finding, however, that in some areas the assurance of continued high crop production requires recognition of this factor.

New erosion control considerations of this sort will make for more detail in farm records and for other adjustments in ordinary farm management procedure. Still, the farm management specialist looks to continuing profitable operation of the farm whereas the soil conservation specialist may think almost wholly of the physical holding of the soil.

Although some soil conserving practices may coincide with recommendations for good farm management, it should be emphasized that conservation practices do not necessarily add to current farm income. But wherever these practices are accepted as necessary for effective erosion control farm management men should recognize them as legitimate costs in the organization of a farm. Grassed waterways or soil-saving dams are illustrations of practices which may increase current expense with no immediate additional income, although they may reduce the loss of income to the farm at some future time.

It is difficult to estimate just what the income of a farm will be at some indefinite future time if soil conservation is not practiced, but ultimately the income must be nothing. This is the answer if the effect of a continuation of soil losses is appraised in dollars-and-cents terms. But the ultimate monetary calculation is not so important as are some of the social problems which appear along this road to complete loss of income. It is quite evident that before these changes have worked themselves through to zero farm income, such profound changes in the lives and activities of the people will have taken place that economic considerations of today would be completely inapplicable then.

Parenthetically, a point should be noted relative to the relationship between economic income and social problems. Continuously falling farm incomes mean less support for schools, churches and roads, as well as loss of income for the people who carry on trades,

professions, and business which normally serve the farm community. When the tax base disappears the community is doomed.

Frequently the problems of the farmer are expressed in terms of income on the assumption that when his income is raised other problems will become less urgent. If diminishing income alone is responsible for some social problem, then increasing the income should be the solution to that problem. But such reasoning is not valid. Although some personal family and social problems are precipitated by a loss of income, like problems are frequently precipitated by conspicuous additions to the family income. For this reason it is doubtful whether a solution of farmers' social problems is to be found only by a solution to his financial problems.

The relationship between the economic and the physical aspects of soil conservation must be kept in mind if farmers are to profit most by erosion control. It has been mentioned earlier that income for meeting family living expenses must be maintained at the same time that erosion control measures are put into effect. Some of the implications in this relationship may be brought out by a few illustrations.

A first consideration is that of size of a farm. The average size of farms in one whole Wisconsin area[1] is around 60 acres of crops. In the past decade a farm of 60 crop acres, under dairy farming conditions as they have existed, would earn a total income of $30 per acre or $1800. This is not a large income but is large enough so that a farm family, if it practices close economy and does not have a heavy debt load, can get along. When it is appreciated, however, that one-half of the 40,000 farms in the area have less than 60 acres of crops and that around one-third have less than 35 crop acres, it is readily seen that size of farm is a very important factor in determining farm income. Should a soil-conserving program reduce the crop land still further, it will of necessity increase the problem of getting enough income with which to support the families on these small units.

Another phase of this problem concerns itself with the inherent productive ability of the crop land. So-called strong soils are usually soils of a silt or clay loam nature which hold tenaciously to their plant nutrients. Weak soils, on the other hand, tend to lose their productive qualities rather quickly upon being cultivated for crops. There are soils in the area which are so sandy that even the best soil-conserving program will not give a satisfactory living income for the participating families; not because the erosion control measures are unsuccessful, but because the net income available to support the family will still be too small. This analysis is especially applicable to those farms on light soil with less than 40 or 50 acres of crop land.

Another problem, which is not unique to erosion areas but which may be found in aggravated form on those farms where erosion has progressed so far that net income is affected, has to do with the value of the land. In the area just referred to, the land was well settled by 1880—65 years ago. Farms were laid out and houses and barns erected. Using La Crosse County, Wisconsin figures to illustrate the point, in 1880 the average farm of the county was valued at approximately $2600. By 1900 the farm would have sold for $4000. During this 20-year period, an average farm would have increased in value over 50%, or $1400. In other words, a farmer who went in debt for his farm in 1880 would not have had to pay off any of his debt. But if he had kept the buildings up and made a living from the current income of the farm, he would have been able, on the average, to sell the place for $1400 more than he paid for it. This gain, added to any "down payment" he may have made, would have served as a little reserve for his old age.

If he had bought his farm in 1900, it would have cost him $4000. Then, if during the next 20 years he had paid interest and kept up improvements, he could have sold the place for nearly 3 times what he paid for it, or $11,800. During this 20 years the farm would have increased in value nearly $8000. An increment of this size would have been a fine reserve for his old age. During this period farmers expanded both their farm costs and their living expenses to the highest level ever reached by an agricultural people.

The whole era from the time the land was acquired from the government to 1920 was one of expanding agriculture, enlarging markets, increasing land values—and rapidly disappearing soil resources.

Now suppose the "average" farmer had bought his La Crosse County farm in 1920 at a cost of $11,800 and had gone in debt for

[1] This area includes most of western Wisconsin, frequently spoken of as the unglaciated area of the state.

$5000, which is just about the mortgage debt load at that time. Was there anything in the situation to suggest that this was not a desirable step? Land ownership has always been looked upon as more desirable than land renting. And, besides, if the past 60 or 80 years had any story to tell, it always was that by 1940 farm land values again would be doubled.

If the farmer had held his land until 1940, he could have sold for $7500; and the debt load would have been no less than when he bought the place. This is a loss in 20 years of more than $4000. In other words, if this farmer had been able to meet family and farm expenses as well as interest payments, the nest egg of $7000 which he deposited in the farm in 1920 would not have been $14,000 in 1940 as might have been expected from the history of the past: it would have been around $3000. It is this process of deflation, or of enforced retrenchment, that has caused so much trouble for the farmer.

In addition, the soil has been so depleted that most careful farming is necessary, at least in many instances, to keep up the physical volume of production as well as the income. The use of commercial fertilizer is becoming recognized as a necessary farm practice even for uneroded soils.

As we look at the plight of the farmer under such conditions and at the cause of this situation, we can not expect a soil conservation program to do more than its share in righting an obviously wrong situation. Admitting that the adoption of soil erosion control practices will add to the income or will at least reduce future losses, still these practices will not make for better prices. Nor will they strengthen urban food demands which would justify a more intensive form of agriculture under which a larger volume of business would benefit the farms with small acreages.

If community problems emerge alike in erosion ridden areas and in areas not subject to erosion; if a change in income alone is no final solution to many social problems; if farms have so few acres of crop land that continuing government subsidy is always necessary to maintain the operators and their families at an acceptable living standard; if loss of soil productivity, even when erosion is not the cause, is such that crop productions can scarcely be maintained even with the aid of improved tillage practices, better adapted varieties of crops, and more nearly complete disease control; and if the farm income is such that savings for old age are non-existent, and title to the farm and home may disappear; then, the program of soil conservation and erosion control as a cause-effect demonstration of attaining desirable farm income and family living conditions must start with the selection of the right kind of farm and it must accept the best that can be offered by the farm management specialists. Otherwise conditions for which the Soil Conservation Service is not responsible, nor has either authority or ways and means to correct, may seem to rest upon its shoulders. The effect of the good work it is doing might thus be nullified to a considerable extent by the problems yet to be tackled which lie outside the immediate field of soil erosion control.

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Public Utility Financing in the Third Quarter of 1945

PUBLIC utility offerings in the third quarter of 1945 totaled $762 millions which exceeds the combined first and second quarter offerings of this year by $85 millions. The total offering of $762 millions is over 3 times that of the corresponding period in 1944 and was the largest of any quarter in the past nine years.

The $175 million American Telephone and Telegraph Company debentures, 2¾'s of 1980, offered in July at par to yield 2.75% of par was the largest issue ever offered for competitive bidding in the history of American financing.

Approximately one-half of the total for the quarter was offered in September. Publicly offered issues continue to predominate in public utility financing.

Public utility long-term debt issues sold publicly are shown in Table I. There are sixteen issues listed which totaled $698 million. The largest issue is the $175 million issue of the American Telephone and Telegraph Company referred to above. Other large issues are the $160 million American Telephone and Telegraph Company's 2¾'s of 1975 offered in September at 100.25% of par to yield 2.74%; the $114 million Con-

sumer Power Company's 2⅞'s of 1975 offered in September at 102.37% of par to yield 2.76%, the $48 million issue of the Public Service Company of Indiana, Inc. 3⅛'s offered in September at 102.46% of par to yield 3%; the $45 million Southern Bell Telephone and Telegraph Company's 2¾'s of 1985 offered at 101⅛% of par to yield 2.71% and the $40 million Eastern Gas and Fuel Associates 3½'s of 1965 offered in August at 102.17% of par to yield 3.35%.

Low offering yield for the quarter was on the Southern Bell Telephone and Telegraph Company debentures of 1985 on which the offering yield was 2.71% of par. Other low offering yields were on the American Telephone and Telegraph Company debentures of 1980, the Pennsylvania Telephone Corporation's 2⅞'s of 1975 and Consumers Power Company's 2⅞'s of 1975. The lowest net cost to company after allowance for underwriters' commissions and estimated incidental expenses was 2.74% for the Southern Bell Telephone and Telegraph Company's 2¾'s of 1985.

The weighted average offering yield on publicly offered issues was 2.99% of par. Underwriters' commissions reached a new low weighted average of .64%. The effect of the comparatively low underwriters' spread of .44% and .43% respectively on the two large American Telephone and

TABLE I. SUMMARY AND ANALYSIS OF PUBLIC UTILITY LONG-TERM DEBT ISSUES OFFERED PUBLICLY, THIRD QUARTER, 1945

Company and Issue (A)	Coupon Rate (B)	Principal Amount (C)	Maturity Date (D)	Month of Offering (E)	Offering Price (F)	Offering Yield (G)	Underwriters' Commissions (H)	Proceeds to Company (I)	Estimated Incidental Expenses (J)	Net Proceeds (K)	Cost to Company (L)
	%	$			%	%	%	%	%	%	%
American Telephone & Telegraph Debentures	2¾	175,000,000	1980	July	100.00	2.75	.44	99.56	.99	98.57	2.81
Mountain States Power Co. First Mortgage	3.00	7,500,000	1975	July	101.95	2.90	.69	101.26	1.00	100.26	2.98
Pennsylvania Telephone Corp. First Mortgage	2⅞	5,500,000	1975	July	102.50	2.75	[1]	[1]	[1]	[1]	[1]
Portland General Electric Co. First Mortgage	3⅛	34,000,000	1975	July	102.41	3.00	1.23	101.18	.60	100.58	3.10
Southern Bell Telephone & Telegraph Co. Debentures	2¾	45,000,000	1985	July	101.13	2.71	.57	100.56	.33	100.23	2.74
Eastern Gas & Fuel Associates First Mtge. & Collateral Trust	3½	40,000,000	1965	August	102.17	3.35	1.61	100.56	.63	99.93	3.51
King County Lighting Co. First Mortgage	3⅛	4,200,000	1975	August	102.41	3.00	.75	101.66	1.46	100.20	3.11
Monongahela Power Co. First Mortgage	3.00	22,000,000	1975	August	102.50	2.87	1.04	101.46	.55	100.91	2.95
Southwestern Elec. Serv. Co. First Mortgage	3⅛	1,550,000	1975	August	102.25	3.02	1.00	101.25	.28	100.97	3.07
American Telephone & Telegraph Co. Debentures	2¾	160,000,000	1975	Sept.	100.25	2.74	.43	99.82	.99	98.83	2.81
Brooklyn Borough Gas Co. First Mortgage	3⅛	3,640,000	1970	Sept.	102.19	3.00	[1]	[1]	[1]	[1]	[1]
Consumers Power Co. First Mortgage	2⅞	113,825,000	1975	Sept.	102.37	2.76	.69	101.68	.44	101.24	2.81
Indiana Gas & Water Co., Inc. First Mortgage	3⅛	6,000,000	1970	Sept.	102.19	3.00	.70	101.49	.79	100.70	3.08
Minnesota Power & Light Co. First Mortgage	3⅛	26,000,000	1975	Sept.	102.46	3.00	.75	101.71	.49	101.22	3.06
Public Service Co. of Indiana, Inc. First Mortgage	3⅛	48,000,000	1975	Sept.	102.46	3.00	.56	101.90	.54	101.36	3.05
Western Light & Telephone Co., Inc. First Mortgage	3.00	6,200,000	1975	Sept.	101.95	2.90	.85	101.10	100. [2]	100.10	2.99
Total or Weighted Average		698,415,000			101.20	2.99	.64[3]	100.54[3]	.75[3]	99.75[3]	2.91[3]

[1] Data not available. [2] Estimated by author.
[3] Excludes issues for which data are not available.

TABLE II. SUMMARY AND ANALYSIS OF PUBLIC UTILITY LONG-TERM DEBT ISSUES OFFERED PRIVATELY, THIRD QUARTER, 1945

Company and Issue (A)	Coupon Rate (B)	Principal Amount (C)	Maturity Date (D)	Month of Offering (E)	Offering Price (F)	Offering Price (G)
	%	$			%	%
Arkansas-Missouri Power Corp. First Mortgage, Series A	3⅛	2,000,000	1974	July	102.17	3.06
Washington Gas Light Co. Ref. Mortgage	3⅛	13,855,000	1970	July	103.87	3.09
Arizona Power Co. First Mortgage Sinking fund	3½	1,221,000	1970	August	100.00	3.50
Southern New England Tel. Co. Debentures	2¾	25,000,000	1980	August	103.00	2.67
Total or Weighted Average		42,076,000			103.16	2.85

TABLE III. SUMMARY AND ANALYSIS OF PREFERRED STOCK ISSUES OFFERED, THIRD QUARTER, 1945

Company and Issue (A)	Dividend (B)	Principal Amount (C)	Month of Offering (D)	Offering Price (E)	Offering Yield (F)
		$		$	%
Idaho Power Co. Par $100	4.00%	3,941,300	July	105.50	3.79
Pennsylvania Telephone Corp. No par	$2.10	3,866,060	July	55.00	3.82
Monongahela Power Co. Cum. Preferred, Par $100	4.40%	9,000,000	August	103.50	4.25
Southwestern Electric Serv. Co. Cum. Preferred, Par $100	4.40%	1,015,000	August	103.00	4.27
Central Electric & Gas Co. Cum. Preferred, Par $50	4.75%	3.250,000	September	53.00	4.48
Total or Weighted Average		21,072,360			4.33

Telegraph Company issues should be noted in connection with the weighted average of the underwriters' .64%. The weighted average cost to company was 2.91% which is an upturn from the 2.79% weighted average for this item reported for the second quarter of 1945.

Table II shows public utility long-term debt issues offered privately during the third quarter of 1945. Four issues are listed which total $42 million. The largest issue is the $25 million Southern New England Telephone Company 2¾'s of 1980 offered at 103% of par to yield 2.67%. The weighted average offering price for privately-offered issues is 103.16% of par and the average yield was 2.85% of par. The average offering yield is the same as that of issues offered privately in the second quarter.

Preferred stock offerings are listed in Table III. There were five issues which totaled $21 million with a weighted average offering yield of 4.33% of par.

The $400,000 Arizona Power Company's 4½'s maturing 1946-1957 was the only serial issue offered during the quarter. The notes were sold privately in August at par to yield 4%.

ORVILLE P. DEUEL

Rate Analyst,
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Book Reviews

When Democracy Builds. By Frank Lloyd Wright. University of Chicago Press, 1945. pp. 132. $4.00.

The City is the People. By Henry S. Churchill. New York: Reynal & Hitchcock, 1945. pp. 188, illustrated. $3.00.

Both these books are about city planning, by men who find little that is either sensible or attractive in the current urban scene. But beyond this common starting point they could hardly be more different. One represents the last outpost of windy sermonizing and abstract rhetoric: the other reflects a fresh and realistic viewpoint disarming in its lack of presumption.

When Democracy Builds is a revision and expansion of *The Disappearing City*, published in 1929, and states the philosophy behind Broadacre City, Wright's model for an ideal community which has been exhibited frequently. Basic principles include complete erasure of existing cities and extreme decentralization and dispersal of industry, commerce, cultural institutions and homes, with every family surrounded by at least an acre of its own land. Beyond these axioms, however, the book contains little concrete description or suggestion and must be judged therefore, not by Mr. Wright's abilities as a designer and builder, but by his significance as a social philosopher.

Frank Lloyd Wright is probably one of the great architects of all time. His capacity as a social thinker and leader, however, is something yet again. It is even possible that his failings in this respect have impeded the full realization and widest impact of his artistic genius: for architecture, after all, is a social art.

This is a weak book, though not because it is visionary in terms of immediate practicability. Bold imagination is needed today to solve the dilemmas of human environment. Moreover, in purely physical terms, there is nothing inherently impossible in Wright's proposals. It could be done, if that is what we want. Nor is his violent hatred of cities and all forms of centralism necessarily a source of weakness. A quickening of the decentrist theories of Kropotkin's *Fields, Factories, Workshops* and Mumford's great trilogy could be a healthy force today—in left-wing political philosophy as well as in city planning.

The real fallacy lies in the domestic isolationism that Wright confuses with modern democracy. The words, capitalized on every page, are Freedom, Democracy, the Individual, Organic Law, Culture, Integration, and the rest. But the idea and ideal is that of the feudal family enclave, with work, play, subsistence, education and loyalties insulated insofar as possible within its own area, the only bridge to the outer world by automobile or airplane, the only law issued from that super-patriarch Frank Lloyd Wright himself. Neither the larger group nor the individual has any really meaning for him. The professor must be a "father-confessor." Even travel will be in "commodious cruisers' cars with sleeping accommodations and cuisine aboard," possibly with "attendant trailers or suitable lorries."

The family is an essential and admirable institution which needs some very serious attention if Western civilization is long to survive. But it seems unlikely that the family, any more than the nation, can be strengthened by arrogant isolation. Instead, a more flexible and responsible give-and-take is probably required, a creative balance, between the family and the individual, the family and the community. Freedom with a capital F includes the possibility of being free even of the family at certain periods. (And it also, for some of us, means not only freedom *for* automobiles, but from them as well.)

In any case, whether the philosophy be true or false, this book is not an effective instrument for its promotion. Some of the salt of his earlier *Autobiography* comes through here and there: "The Expert? In any genuine Democracy, were Education adequate, the 'Expert' would be kept in a cage as some abnormality to be publicly ex-

hibited as a warning." But in general there are only vague and violent exhortations strung together and reiterated, an unworthy substitute for reasoned analysis and sympathetic persuasion. In form as well as in content it is an example of what happens when a brilliant ego, spurning even the discipline of communication, runs wild in its contempt for society.

The University of Chicago could have done much for art, for education, and for Frank Lloyd Wright, had they hired him as an architect in the days when both they and he were developing, side by side in the same city. But, waiting till now to honor a name made safely famous elsewhere, it is a question whether they have not done Wright a disservice by publishing this book.

Henry Churchill is as modest and open-minded, for all his critical eye and sharp tongue, as Frank Lloyd Wright is presumptuous and didactic. *The City is the People* included an excellent historic summary of cities and city planning, from Mohenjo-Daro to the London Plan, an able survey of current problems, efforts and trends in the United States, and some wonderful illustrations. A maximum of fresh observation and pertinent information is presented with a minimum of rhetoric and technical lingo, and the result is not only an exceptionally useful introduction for the interested layman but also good medicine for the professional planners and housers grown smug and incomprehensible within the narrow walls of expertise.

His analysis of our planning traditions is lively. After the Chicago Fair of 1892, "the Corinthian Order of Imperial Rome . . . emerged from the boards of platitudinous architects . . . a stereotyped manifestation of economic authoritarianism. The Roman fasces became Americanized: $. Nevertheless, civic thinking had to start somewhere . . . Cities started to wash their faces even if their underwear was still dirty." He is somewhat less tolerant, perhaps, about the weaknesses of early public housing and slum clearance practice: it too, after all, "had to start somewhere."

He has dug up some neglected classics of American planning criticism, among them a distinguished series of articles in the *American Journal of Science and Art* in 1830 by an anonymous precursor of Camille Sitte, and a devastating but equally unheeded 1924 report on zoning practice by a committee of the American Institute of Architects under the chairmanship of Clarence Stein.

The most eloquent section, and the most immediately significant, is that on urban redevelopment. Churchill believes that the most important thing we can aim for through this movement is increased municipal land ownership, but he exposes brilliantly some of the fallacies now extant. The chief one is our fascination with "large scale rebuilding," which is leading us, "too lazy to work out the details of reasonable-scale democratic effort," into subsidizing vast monopolistic enterprise of which the "feudalistic planning and racial discrimination of Stuyvesant Town" is a warning example. At long last, deserved emphasis is given to the dangerous trend, implicit in all current planning and housing activities, toward economic and social standardization and complete class segregation over vast areas.

Every virtue has its obverse weakness and Churchill's lack of presumption, his aversion for capitalized abstractions, sometimes results in neglect of primary causes. There is a tendency throughout the book to interpret the city's evolution and problems too mechanistically, as if gunpowder, mercantilism, the industrial revolution, automobiles and airplanes, had simply descended on a passive people. Thus the city planner's responsibility is simply to *cope*, albeit as intelligently and humanely as possible, with techno-economic forces that are, in themselves, wholly external and fortuitous. But can the planner thus relieve himself of the need to weigh, and even guide, much deeper and less tangible social-psychological factors? After all, metropolitan decentralization is primarily the result of a demand for free-standing houses and better working conditions: the internal combustion engine was merely an instrument. The atomic bomb would not be a menace to our cities were it not for rampant nationalism. The TVA is only secondarily a demonstration of geotechnics: first and foremost it is an example of what the will to improve a socially and economically backward region can do when given progressive political implementation.

The City is the People just misses profundity, perhaps, but it is a sensitive, sensible and persuasive book which should reach a wide audience.

Boston, Massachusetts CATHERINE BAUER

The Junker in the Prussian Administration Under William II, 1888-1914. By Lysbeth Walker Muncey. Providence, Rhode Island: Brown University Press, 1944. pp. 256.

This carefully documented study is partly an analysis of a social class and its gradual change in response to external conditions, partly an analysis of a continental bureaucracy, and partly an account of the use of bureaucratic position to defend class interests. The social class is that known as the Junker, the country squire of Prussia's seven eastern provinces; the bureaucracy is that of Prussia, especially in its intermediate levels; and the politics is the effort of small landowners to support agricultural prices by political action, especially through the Prussian Conservative Party. Although not a primary object, the book throws light on the conditions of landholding and agricultural leadership in Prussia under the long reign of William II.

The Junker belonged to the lesser nobility, the descendants of the original German colonizers of eastern Prussia. For the purpose of this study the criteria of a Junker family were: ennoblement by 1888; property (but not great wealth) in the seven eastern provinces; Protestant faith; absence of close relations with the western aristocracy; customary service in the Prussian army and administration (but in no middle-class occupations); marriage in old Junker families; and membership in the Conservative Party. Psychologically the Junkers were strongly conscious of their hereditary privileged social status, possessed of a feeling of authority, mastery, and self-assurance within their own sphere (narrow and intellectually-confined though it was), politically independent and self-sufficient, and at the same time almost piously obedient to the monarch. Miss Muncy suggests the Junker was strikingly like the English country squire of the eighteenth century who was appointed Justice of the Peace and sent up to Parliament as a county member.

This rural nobility had three preoccupations: farming, the army, and the Prussian civil service. In her study the author found 668 Junker families connected with the administration from 1888 to 1914. They held high court offices, went occasionally into diplomacy, although as a class unsuited for this career, and especially into the intermediate levels of the Prussian bureaucracy. The office they cherished most was the post of Landrat—an office for which there is no American equivalent. Appointed by the central government, the Landrat was both the representative of Berlin and of the local inhabitants of the "circle" (Kreis) over which he presided—a rural area about the size of a small American county, of which about 490 were found in all Prussia. Here was developed a notable sense of trusteeship for local interests that, however, was overlaid in considerable measure by the mounting pressure to save the agricultural interests of the Junker class.

The crux of the matter lay in the fall of agricultural prices and the potential collapse of the small margin on which the Junker existed, aided in part by the emoluments of office. The Landrat was the most vital political center in the whole Prussian system of administration, says Miss Muncy, adding that the importance of his political activities cannot be exaggerated. These Junker officials, in the circles and also in the Prussian Diet, did what they could to orient German policy in their direction. They were not, however, a dominant political force. They were overshadowed by the Agrarian League, whose methods they did not like, and they were never in command of the Conservative Party. On the other hand, they never wavered in their allegiance to the party; they had nowhere else to go. Since this work was not intended as a study of politics, Miss Muncy does not pursue this theme.

This study will be of greatest interest to students of public administration, but it has also much material that will command the attention of specialists in agricultural economics and politics. It was not designed as a work in land economics. It is a welcome addition to a literature which, although abundant in German, is very scanty in the English language. A corresponding analysis of the political role of the well-to-do American farmer in the defense of his economic interests through the medium of officeholding would be equally welcome to a large audience.

LEONARD D. WHITE
The University of Chicago

Names on the Land. By George R. Stewart. New York: Random House, 1945. pp. ix, 418. $3.00.

Some years ago a distinguished geographer expressed his perplexity to me. He had tried to derive patterns of land use in his area of special study from the historic forces of glaciation, erosion and resultant soil characteristics. But he had come to realize, after field visits to the area, that the patterns were determined as much by the cultural traditions of the several waves of immigrants; those of French background arranged a farmstead differently from Scandinavians. He accordingly found himself driven to the social sciences—history and sociology—to find the clues to the elements of his study.

The history of place-names can well be an adjunct to such studies, as Professor Stewart's interesting book indicates. Chapter XXIV, "How They Took Over the French Names," is particularly suggestive: "By these names you may know where the Frenchmen passed —boatmen and forest runners, King's officers and black robed priests. The Americans took them over, not knowing what they meant, using them only as counters." Thus the Smackover oil fields represent an original *chemin couvert*. The Ozark region is especially rich in these buried memorials of earlier settlement. (Mr. Stewart rejects *Ozark* as a corruption of [Rivière] *aux arcs*, in favor of an original French *aux Arks*—the Arkansas Indians.)

It is not within the compass of Stewart's book to answer the question that an eminent native of the Ozarks has posed. It is known that more than a generation passed from the time of the withdrawal of the French after the Louisiana Purchase to the fresh immigration from Tennessee and Kentucky of those Anglo-Saxons in whose mouths *l'eau froide* became Low Freight. How was the tradition of the French names carried across the gap? By the Indians?

Chapter XXVII, "Of a New Generation," opens windows on the process that would particularly interest my geographer friend: the evidences in place-names of patterns of westward movement in the early nineteenth century. "Vevay in Indiana marked a Swiss settlement." Even the "great removal" of the Creeks from Alabama beyond the Mississippi can be traced through the parallelisms of Coosa and Cusa, Tallahassee and Tullahasse, Tulsy and Tulsa.

Another relationship of name and place developed by Stewart deserves mention. If we were now naming the Mississippi River, we would recognize that its longest and main branch is what is called the Missouri. But Joliet and Marquette first touched "the great river" of Indian repute in Wisconsin and carried the name *down* the river with them. Similarly Thomas Walker, coming over the mountains from Virginia, named Flat Creek Cumberland River: "The French had already named this river at its other end, but Walker's new name was English, and it spread with the triumph of English arms down the course of the stream."

Professor Stewart's book is a popular, general "historical account of place-naming in the United States." It is not organized to bring out systematically the relationships I have illustrated. In his "postscript" he lists five states for which "adequate coverage" by special "place-name dictionaries" is now available, others for which good but less comprehensive studies have been published, and a bibliography now under preparation by Dr. Harold W. Bentley of Columbia University. Dr. Stewart's fascinating introduction should whet the appetite of students of land use for these more detailed studies.

CHARLES S. ASCHER

New York City

Tin Horns and Calico: A Decisive Episode in the Emergence of Democracy. By Henry Christman. New York: Henry Holt & Co., 1945. pp. 343. $3.75.

Tin Horns and Calico is the story of the struggle of tenant farmers in the upper Hudson Valley against their feudal landlords in the days of Jacksonian Democracy. The trouble center was the great Van Rensselaer estate around Albany although it extended to the holdings of other great manor lords. An Amsterdam jeweler had gotten the original grant early in the seventeenth century. Ever since, the family had kept and added to their holdings. They survived the transition from Dutch to English

rule and the American Revolution. By the time the Constitution of 1787 was in effect, Alexander Hamilton had devised a lease for them that was a legal wonder. Feudalism had been outlawed in New York at the end of the American Revolution. This "lease" was therefore called an "incomplete sale." It differed little from the grants made by the first patroon in the seventeenth century and it was so rigged that few of the thousands of farmers on the estate could either complete the "sale" or afford to leave the land once they had lived on and improved it.

There were bitter complaints but matters did not head up until Stephen Van Rensselaer died in 1839. He was known as the "Good Patroon." He had not pressed for rents when times were hard but he had managed well enough for he collected over forty million dollars, even so. His will required that all back rents be collected and his heirs were determined to abide by the will. The result was increasing trouble. Farmers refused to pay back rents. Sheriffs sent to collect or eject were run off the farms, tarred and feathered, and otherwise thoroughly discomfited. The farmers organized. They used tin dinner horns to sound the alarm whenever the landlords or their sheriffs came into the tenant farmer regions. They wore elaborate calico "uniforms" as disguises. The farmers went into politics. Politicians scenting votes supported the Anti-Renters when expedient. Horace Greeley used his paper and George Henry Evans, the Land Reformer, was ardent in their behalf. Their own leaders, particularly Dr. Smith Boughton, were heroic.

Partial success was achieved through a legal test of land titles in the courts of New York. In 1850 the "incomplete sale" lease was held unconstitutional and in 1852 the Van Rensselaer title itself was held invalid. Many landlords hastened to settle with the farmers on the best terms they could. Others like the Van Rennselaers sold their claims to speculators who continued the effort to exploit the farmers. The most vicious of these was Walter Church. He lobbied in the legislature. He bought judges to declare his claims valid. During the Civil War while many a farmer and his son were away fighting, the landlord group, solidly in control of the Democratic party in New York, redoubled its efforts to crush the tenants. Walter Church got himself appointed colonel of the national guard and then in 1865 ordered the troops in to collect money or eject farmers from their homes. It was a long, bitter, disheartening struggle in which men were shot and killed as late as the 1880's. But the final result was the destruction of this particular kind of feudalism in New York.

The story is well told although sometimes in too great detail. The reproductions of broadsides and cartoons are excellent. The appendix of the ballads and poems of the Anti-Rent movement is a joy. A weakness of the book is its lack of perspective. Irving Mark's study of agrarian revolt in colonial New York, which apparently was not used, shows that the Anti-Rent struggle was only the end of a battle already a century old when the Anti-Rent movement began.

The book brings many a question to mind as to the functioning of the American land system, questions which the work of Paul Gates and Fred Shannon is helping to answer. This book, like their work, demonstrates the futility of drawing any conclusions on who got what, when, and how on the basis of laws that were passed. Small areas and incidents must be examined in microscopic detail, as Dr. Joseph Schafer did in Wisconsin, before a valid history of the land can be written.

MERRILL JENSEN
University of Wisconsin

Country Planning. By the Agricultural Economics Research Institute. Oxford, England: Oxford University Press, 1944. pp. 288. $2.50.

Country Planning is a small volume on English rural reconstruction, prepared by members of the Agricultural Economics Research Institute, Oxford University, and a small number of outside investigators. The study was designed "to be a 'pilot' or experimental survey . . . to test the method and the scope of an inquiry which would provide a basis for country planning."

Despite the fact that the English countryside "affords the best of all settings for life and labor," the countryman is at a distinct disadvantage "both in his purchasing power and in the physical and social conditions of life—housing, the public services, education, leisure, and the opportunities for using it,"

and almost complete absence of opportunities for advancement.

The prevailing miscellaneous collection of haphazard farms and fields of all shapes and sizes, largely unrelated to soil conditions and in most instances too small or otherwise unadapted to modern mechanized operation, certainly does not make for efficiency in agricultural operation. With negligible exceptions "the farms are disclosed as being still as they were laid out, following inclosure, in the eighteenth and nineteenth centuries."

Thus one of the major requirements for rural reconstruction and rural rehabilitation is that of reassembling the land and re-equipping it in units to fit it for modern farming. It is pointed out that the essentials of a planned layout for efficiency in agricultural production are these: (1) the holdings should be compact, accessible, and convenient to work; (2) the ploughland should be in one piece, and with as little soil variation as possible; (3) farms should be large enough to admit of mechanical cultivation, from which it follows; that (4) severally, they should be about 450 acres and upwards in size. Such a plan could be achieved only at the expense of a great deal of disturbance not only of occupiers, but also of owners of the land. It would also mean further loss of people from agriculture.

Rural reconstruction is dependent on much more than increased production and marketing efficiency, even though these are the key to the over-all problem. Rural administration is an important factor in providing essential institutional services and in otherwise making possible the improvement in the amenities of life for rural people. According to the report the spirit of local self-government is practically nonexistent and "parish meetings nearly everywhere a farce."

Closely related to the problems of rural administration are those of providing services such as sewage disposal, scavenging, water, lighting, education, health services, and housing. It is obvious that these will have to be provided wholesale over a wide area, instead of piecemeal. Only in this way can services on an adequate basis be provided at a cost that is tolerable.

Town and country need to be more successfully wedded in the establishment of a better balance between agriculture and industry. "What is needed is not so much an increase in the number of landworkers in the villages as the restoration to them of the industrial element of their populations of which they have been deprived by the march of progress."

The authors of this small treatise have done an excellent job of portraying in a most interesting manner the conditions under which the countryman lives and labors today in one small district of England. All those interested in rural life will want to read this book and rural planners in America will be struck by the many common problems in the two countries. The authors did not attempt to blueprint the future of a reconstructed agriculture, but they did, with meticulous care, portray the life of the countryman from the pre-natal clinic to the old age pension and have sharply pointed up the problems which country planning everywhere must face and solve.

FRANK J. WELCH

Mississippi State College

Exploring Tomorrow's Agriculture: Cooperative Group Farming—A Practical Program of Rural Rehabilitation. By Joseph W. Eaton. Foreword by M. L. Wilson. New York and London: Harper and Brothers, 1943. pp. 225. $2.75.

This book presents information about the progress of the twenty-seven Farm Security Administration cooperative group farms and some non-governmental group farms. The author had made a first-hand study of three of these FSA group farms in Missouri and Indiana in 1941 just prior to his induction into the armed services. He wrote the book from the viewpoint of one having "a hunch that cooperative group farming is a solution of many of America's rural problems." However, he has not been blind to the defects and difficulties of these ventures. Considerable space is devoted to a discussion of the problems, difficulties, and failures as well as of the successes encountered on these projects. Not only members, but also supervisors and administrators made mistakes,

partly because they were pioneering in a new field. Some of them neither understood nor sympathized with these cooperative group farming experiments.

The cooperative group farm is defined as "an association of a number of farm families who operate jointly a large-scale farming enterprise and who equitably share the returns of their group effort." The author's arguments in favor of large-scale cooperative group farming are that such farms make possible (1) an economical use of large-scale, efficient machinery; (2) efficient division of labor; (3) some processing of products and all-year-round productive employment; (4) income stability due to diversification, and (5) greater degree of self sufficiency. Social and cultural advantages are plausibly claimed for the village or group arrangement of the homes on the large cooperative farms.

Although he admits lack of conclusive evidence as to the respective merits of large farms and individual family-type farms, the author believes the large farms to be more efficient and able to survive. As evidence that the family-type farms are doomed he cites the increase in tenancy. The census reported 8.8 percent decrease in the number of "family-type units from 20 to 175 acres," and the 24.7 percent increase between 1930 and 1940 in the number of farms of 1000 acres or more are also advanced as evidence. He quotes opinion to the effect that "the family-type farm cannot survive in our machine age." One wonders if these men really were not thinking of subsistence farms. Here it may be appropriate to suggest that an up-to-date common understanding of the term "family-type farm" is needed. The concept may have to include farms of more than 1000 acres. If the "family-type farm" is to continue to be our national ideal, the expression certainly should not imply a subsistence farm.

The author calls attention to ten deficiencies in rural living to be overcome by rehabilitation. These are: material well-being, secure income, good working conditions, insurance against adversity, economic democracy, health, education, leisure for living, community roots, and opportunity for self-development. With respect to all ten criteria his conclusion is that the members of the cooperative group farms were ahead of a large proportion of surrounding farmers. This conclusion, he specifies, must be only a tentative one because the projects had not been in operation an adequate length of time. It should be remembered that the members were selected from low-income groups in need of "rehabilitation." Many of the members, however, had had no past condition of existence to which it would have been desirable to be rehabilitated.

Very properly the author calls attention to the fact that certain improvements in agriculture, such as the elimination of rural overpopulation and poverty, can not be attained purely by intra-agricultural measures. He specifies "three surmountable obstacles of rural rehabilitation" which, he holds, can be overcome by intra-agricultural action. These obstacles, "asocial effects of mechanization," "inefficient farm production," and "habits of rugged isolation," the author believes can be overcome only through cooperative corporations. Proof of this is as yet lacking, he says, but, "at least they exhibit hopeful and promising signs that their pattern is dealing effectively with most of the intra-agricultural maladjustments."

Rehabilitation as such he recognizes as potentially harmful if it simply leads to public aid in maintaining an excessive, rural population on the land. The cooperative-group-farming type of rehabilitation, nevertheless, he justifies as a promising social experiment.

Repeatedly the author calls attention to the experimental value of these large cooperative corporation farms. Additional experimental evidence will be necessary to determine conclusively their usefulness in American agriculture. This book should be of value to future scientific researchers in this field. But if one were to agree with M. L. Wilson's statement in the foreword that cooperative group farming is "destined to fail unless there is some religions or ethical motive to draw people together," such experiments with average people would appear useless. It would seem, however, that normal economic and social considerations should be adequate motivation. The comment might also be made that such social research in the future be placed in charge of thoroughly competent scientific research personnel.

GABRIEL LUNDY
South Dakota State College

Report of the Urban Planning Conferences Under the Auspices of the Johns Hopkins University. Baltimore: The Johns Hopkins Press, 1944. pp. 243. $2.75.

The Urban Planning Conferences at Evergreen House consisted of a series of six full week-end sessions at Johns Hopkins University (the dates are not indicated) at which a selected group of participants discussed various city planning problems. This report contains in whole or in part some eighteen papers presented at the conferences, together with complete or abridged transcripts of the discussions thereon. The papers are grouped under four main headings, "Basic Directives in Urban Planning," "Transportation," "Housing, Health, Recreation and Welfare," and "The Governmental Framework and other Processes of Urban Planning." In addition, there are two forewords, and a list of conference participants.

It is, of course, impossible to judge the adequacy of the conferences as a whole on the basis of a partial report which is hampered by space limitations. But, taking this report on its own merits as a contribution to the literature on city planning, two basic shortcomings are evident which deserve comment because they are basic.

The first, and most serious deficiency is a disturbing lack of perspective on the whole field of city planning as such, leading to a further lack of critical evaluation of city planning processes. For example, not until page 213, (the book has 243 pages) in the article "A Procedure For City Planning," by Al Schweizer, does anything appear which purports to be a succinct statement of what city planning is and how it is done. Unfortunately, even this article consists of a wholly uncritical digest of the city planning technique developed by the N. R. P. B. shortly before its demise. Now it so happens that this technique (subsequently published by the Public Administration Clearing House as *Action for Cities*) is helpful, and certainly *Action for Cities* is the most comprehensive and best organized compendium that has appeared in the field to date. Nevertheless, in all candor, we must admit that it can dissipate the energies of planners who attempt to use it by directing them simultaneously into more fields than they can possibly operate in effectively, even though it calls for farming out much of the work to a variety of local committees; and this fundamental weakness is compounded by its failure to tell how to do any of the hundred odd things it says should be done.

To take a second example, this Evergreen report is preoccupied with transportation problems, and notably, air transportation. Of its 243 pages, no less than 74 are on transportation, with 47 of these pages devoted to air traffic and airports. The material on transportation is good, and useful, and relevant to city planning. In fact, some of the best material in the book is in this section. But if our attention is presumably directed to city planning as a whole, the emphasis given to transportation, and particularly to air transportation, is out of all proportion to the relative significance of these matters in the larger structure of our cities. In the first place, while airport problems cannot be neglected and will create headlines for some time to come, the responsible planner knows that it is the railroads and the highways that will preponderantly affect both the economy and the overall physical layout of his town and must receive attention from him in proportion to their significance. And in the second place, the total complex of urban transportation problems must be viewed in proper proportional relationship to the other elements of the city's structure—its industries, its central business district, and its many component communities with their shopping centers, schools, and homes—if we are to have a balanced view of city planning as a whole, and of its total possibilities and requirements.

For a third example, while there is no subject more vital to a city than its economic foundations, no consideration whatever is given to the overall economic background of the community. Glenn McLaughlin's paper on "The Planning of Industrial Development" is accorded but 4⅓ pages—exactly one-third of a page more than a nebuluous piece by Lawrence Frank on "Urban Planning with Particular Emphasis on Child Care."

The second shortcoming is ancillary to the first. The report does not sum up any series of practical suggestions as to what can and should be done in city planning in the coming critical months and years, and because of

its lack of perspective on the field as a whole, one would face difficulty in attempting to derive from it a balanced, realistic and integrated action program.

These difficulties and shortcomings are inherent in any field so complex as city planning, and in the conference approach to any subject as well. But they are also indicative of the state of thinking in a field in which there will be much clamor for action in the very near future.

SCOTT KEYES
Cincinnati Planning Commission

County of London Plan. Prepared for the London County Council by J. H. Forshaw and Patrick Abercrombie. London: Macmillan and Co., Ltd., 1943. pp. 185. 12/6 net.

The County of London Plan was prepared for the London County Council by its chief architect, J. H. Forshaw, and by Patrick Abercrombie, Professor of Town Planning, University College, London. The usual elements present in a master plan are covered in this volume. But it is doubtful if there has ever been a plan founded on a broader base of social analysis (not that it is necessarily adequate in this instance), nor with evidence of so comprehensive a viewpoint; certainly, no plan has ever been presented in published form so lavishly and so effectively. This volume is a collector's item; it is admirably organized, beautifully printed, and full of color plates, intriguing diagrams and magnificent photography which vitalizes the presentation.

Since its publication in 1943 numerous reviews have appeared in various journals from the pens of many persons qualified to comment.[1] At this late date, therefore, it may be of greater utility and interest to review the reviews than to dissect the plan itself.

General agreement exists among the reviewers that the plan is well conceived for the attainment of most of the usual planning objectives. There is approbation for the emphasis on the neighborhood unit of variant rather than homogenous character; for the replanning of the Thames bank to increase from nine to thirty per cent the river frontage reserved for open spaces; likewise approved is the comprehensive highway system which makes islands of the neighborhood units; the effort to reduce the journey to work; the great increase in green wedges and open spaces; the emphasis on better living rather than on monumentality and vistas; and the effort to stabilize London's population by the enforcement of maximum density standards.

But the experts, with that considerable lack of unanimity which is characteristic of experts, have found numerous grounds for dissatisfaction with the County of London Plan. Quite often these reservations might have been predicted by one familiar with the background and preoccupation of the critic. Objections based on differences in emphasis and degree are common. Several commentators feel that the Plan does not go far enough in decentralization and dilution and that the density standards are not sufficiently rigorous. Some writers warn that if living conditions are not made much more attractive in the city's core, the flight to the city's suburbs will continue. Those persons who are familiar with Mumford's concern about the interrelation of the urban milieu and the biologic vitality of the urbanite will have anticipated his eloquent rejection of the Plan because of its presumed failure to provide an environment sufficiently encouraging for fruitful family life. Other writers complain of the low ratio of open space to population and there seems to be quite a general protest against the density and housing proposals which imply that four out of every six Londoners will reside in flats (apartments).

Some of the commentaries dwell on the necessary deficiencies of a plan that is limited by the political boundaries of the County even though Professor Abercrombie was appointed to prepare a separate report (which has recently been completed) for the London region. A number of reviewers take

[1] See, for example, L. Mumford, "The Plan of London," *City Development* (New York: Harcourt, Brace & Co., 1945); W. Robson, "The Greater London Plan," *Political Science Quarterly*, April-June 1945; F. J. Osborn's discussion in *Town & Country Planning*, Summer 1943, pp. 64–6; *The Economist*, July 17, 1943, pp. 67–8; and Dec. 16, 1944. pp. 794-5. Also note the following essays in the *Architectural Review*, September 1944: J. Crane, "Planning the Democratic Metropolis," F. P. Clark, "The London Plan & The New York Plan," C. Stein, "Planning Technique & The London Plan," C. Bauer, "Planning is Politics—But Are Planners Politicians," and John M. Gaus, "Legislation and the London Plan."

as their theme the practical aspects of the effectuation of the Plan. J. M. Gaus and W. Robson, for example, point to the failure to anticipate some of the political, administrative and financial obstacles to the realization of the Plan. Catherine Bauer insists that planning is politics and implies that slighting of this fact accounts for the discrepancy between England's outstanding legislation and reports and the actual accomplishments in housing and planning. Still others comment on the lack of adequate provisions for air transport; the proposal for a positive type of zoning is handed both bouquets and scallions by the reviewers.

If some of the reviews of the County of London Plan have been something less than penetrating or have evasively wandered off into philosophical by-ways or have fallen back on the conventional plaint that it is good but doesn't go far enough, it is only because it is an extremely difficult task to pass reasoned judgment on so intricately modeled a mechanism as the master plan for one of the most complex metropolises in the world; to test the involved progression of logical steps based on a great collation of social data out of which is fashioned the physical pattern; to evaluate the multitude of judgments which must be made throughout the planning process with each decision conditioned by a cultural framework and a set of social values like but still unlike our own. Most of the reviewers, in spite of their criticisms and reservations, seem to possess a genuine respect for the Plan and for its creators. We may safely assume that it is one of the outstanding planning accomplishments of the era.

RICHARD U. RATCLIFF
LLOYD RODWIN
University of Wisconsin

Land Tenure in the Colonies. By V. Liversage. Cambridge, England: Cambridge University Press, 1945. pp. 151. $2.00.

Land Tenure in the Colonies is an informative, although in some respect superficial 145-page digest of land tenure systems throughout much of the world. The title is obviously a misnomer since the discussion is not at all restricted to colonies unless the United States, Brazil and other major countries are still considered colonies by the author. Had the author restricted his analysis to colonies, particularly the British colonies, a more thorough and significant work should have been the result. As it is, the book gives only limited and at times an all too sketchy treatment of world tenure systems and contributes little that is not already available in more complete forms.

This apparent weakness also becomes the strong point of the book in that it brings together a wide range of tenure systems and policies that would otherwise necessitate the reading and studying of many references some of which are not available in most libraries. This feature alone recommends the book to all students of land tenure. Those students interested in pursuing specific tenure systems further can find helpful direction in the comprehensive bibliography at the end of the book.

The purpose of the book, in the author's words, is "to give a general conspectus of the forms of agricultural land tenure in various parts of the world, to appraise their practical effects and to give some indications of their bearing on colonial policy." In carrying out this purpose systems of tenure are discussed in the first eight chapters under the following classes: tribal tenure, feudal tenure, labour tenancy, share tenancy, cash tenancy, emphyteusis, and owner-occupation. Six middle chapters discuss the freehold from the viewpoints of advantages, weaknesses, dangers, subdivision and fragmentation and extent and consequences of farm indebtedness. The three concluding chapters discuss "remedies" and "modern policies."

Origins of present-day advanced tenure systems are found in the communal elements of tribal tenures. Land systems throughout primitive parts of the world such as parts of Kenya, Togoland and Kikuyu are used to illustrate tribal tenures. The omission of the Russian land system leaves a serious gap in those sections of the book concerned with communal tenures, particularly the place of such tenures in a highly developed society.

The evolution of tenure systems is traced through the feudal stage which is differentiated from tribal tenures "mainly in the degree to which a political system is superimposed upon ordinary tribal practices." Basutoland, Buganda and Bunyojo are given as modern examples of feudal tenures to

supplement the discussion of feudal land practices in medieval Europe.

Tribal and feudal tenures grouped together as customary tenures are differentiated from modern tenancy, and freehold tenures designated as contractual tenures, primarily by the fact that in the latter case the individual holds land by virtue of contractual arrangements entered into by him rather than having his tenure arrangements determined by custom and status as is the case with tribal and feudal tenures. The transsition from customary to contractual relationships and the commutation of customary feudal services for money payments are correctly described as critical issues in the development of modern tenure systems.

The merits and weaknesses of labour, share and cash tenancies are discussed in terms of historical and present-day examples. The characterization of cash tenancy in England as "an undoubted success" appears to be an exaggeration in light of the limited evidence presented. Likewise, the description of the English landlord as one who "seldom exacted the full competitive rent, made reductions in bad times and only with reluctance made any upward adjustment in times of abnormally high prices" appears overly charitable—particularly in light of the experiences of Irish and English tenants with which most of us are familiar from reading other writings on this subject.

Tenancies are described as shading into freeholds through "emphyteusis" arrangements whereby land occupiers possess long-term interests in land. The 999-year leases under which land in Kenya is granted to settlers is given as an example.

The freehold or fee simple estate defined in terms of being heritable, disposable and alienable, is differentiated from owner-occupation and "peasant-proprietorship" in that the former refers to landed property in general while the latter is restricted to ownership of land by occupiers. In presenting societal limitations upon the Anglo-American concept of fee simple ownership the author either overlooks or omits, with no good reason, additional qualifications embodied in the public use of the tax, police, and spending powers in respect to private lands. These powers along with the "eminent domain" power mentioned by Mr. Liversage constitute the basis for controlling the private use and occupancy of land in the best interests of society at large. Such powers provide the necessary social flexibility in private ownership described as the "social theory of landed property" by the late Professor George S. Wehrwein.

Advantages of owner - occupation are summed up in terms of "it promises a stable and contented rural population and a bulwark against subversive elements" and "it conduces to intensive cultivation of the soil and to its preservation" a la Arthur Young's oft quoted statement that "the magic of property turns sand into gold."

Dangers in the freehold system are summarized in terms of: (1) "the creation of freehold titles converts land into a negotiable security which assumes a commercial value in the same way as any other security;" (2) excessive subdivision and fragmentation of land holdings attributable largely to the "laws and customs in regard to succession to property"; and (3) excessive farm indebtedness also attributed to succession laws and practices in addition to inadequate credit policies. The discussion of farm indebtedness covering 24 of the book's 145 pages and profusely illustrated by facts and practices in many countries is one of the strongest sections of the book.

In considering ameliorative adjustments the author concludes that "the only feasible approach to the problem is through the tenure system itself." Limitations of price economics in tenure reforms are implicit in this conclusion. In a critical review of tenure policies "in some countries, such as the United States and South Africa, it would seem that the authorities are unable to suggest anything much better than setting involved farmers on dry land and leaving them to fall in debt again." On the more constructive side, German land inheritance reforms, Egyptian land acts, and English land reforms are all cited as positive steps in the right direction.

Features of a "sound land system" are outlined in terms of inheritance reforms, tenant security, landowner's responsibility for land conservation, retirement of submarginal land, and social responsibility for the "interests of the community in general"—all within the present framework of private property.

An "alternative goal to private ownership" is proposed in which "it is necessary to visualize the actual ownership of land being vested in the state or in tribal authorities."

This alternative goal could be effected through buying out "existing claims to land and thus convert free landowners into secure tenants subject to official control of land use." The Gezira scheme in the Anglo-Egyptian Sudan is offered as an example.

It is extremely doubtful that America's experience with the owner-operatorship ideal have been sufficiently discouraging to invite serious consideration of such an alternative at this time. On the other hand, students of land tenure must continuously search for and develop alternative practices and systems of tenure which will more effectively carry out the purposes expected of our institution of private property.

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The Technique of the Terrain. By H. A. Musham. New York: Reinhold Publishing Corporation, 1944. pp. vii, 228. $3.88.

Mapping of the natural landscape is an art, an art, however, acquired by careful training and practice. Any individual who deals directly with land and its content will of necessity be in need of training in various mapping techniques in order to show the land and its many details. To know and evaluate the land one must be able to see it in its entirety. In order to accomplish this it is often necessary for the individual to personally map in the field.

Major Musham's small, compact textbook was written specifically for the training of military personnel in making and interpreting topographic maps. The book is simply written with the ever-present mathematics reduced to a minimum or having been eliminated entirely. The text is well illustrated with large, clear, concise diagrams and maps.

The book falls naturally into four unequal subdivisions. The first part deals with the basic fundamentals of mapping, including chapters on the geometry of the map, map construction, drafting, map scales, relief, slopes and coordinates. The author has done an excellent job in the presentation of the many principles needed in a successful mapping course. The relatively new mapping techniques of aerial photography are then presented in a discussion that is much too brief and decidedly weak for such an important new field of surface study. Aerial photography has brought about a great revolution in the mapping of the physical landscape and henceforth should be stressed in any worthwhile mapping course. The next section of the book deals with the military application of mapping in tactical warfare with its various phases. The final chapter, "Military Geography," has little to do with topographic mapping or its practical application and is entirely out of place in this text. It could be omitted without detracting from rest of the book.

The most valuable contribution offered by the text is to be found in the chapter on the units of measurements and the many conversion tables in the appendix, making it an invaluable reference. This text is to be highly recommended to those teachers and students who wish to make studies involving the mapping of surface features only.

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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of *Journal of Land and Public Utility Economics* published quarterly at Madison, Wisconsin for November 1945.
State of Wisconsin, County of Dane.

Before me, a notary public in and for the State and county aforesaid, personally appeared Mary E. Amend, who, having been duly sworn according to law, deposes and says that she is the Managing Editor of the *Journal of Land and Public Utility Economics* and that the following is, to the best of her knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the ca ption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, University of Wisconsin, Sterling Hall, Madison, Wisconsin, Managing Editor, Mary E. Amend, Sterling Hall, Universit" of Wisconsin, Madison, Wisconsin.

2. That the owner is: University of Wisconsin, Madison, Wisconsin.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

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MARY E. AMEND, *Managing Editor*

Sworn to and subscribed before me this 22nd day of September 1945.

[SEAL]

Mary A. Klusmann
(My commission expires 7-14-46)

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